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Sequence 19, Application US/09785215
Publication No. US20020187157A1
GENERAL INFORMATION:
TITLE OF INVENTION: NOVEL METHOD FOR DOWN-REGULATION OF AMYLOID
FILE REPRENCE: 3631-0107P
CURRENT FILING DATE: 2001-02-20
NUMBER OF SEQ ID NOS: 19
SOFTWARE: Patentin version 3.1
SEQ ID NO 19
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US-09-785-215-19
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Sequence 69, Appl
Sequence 10, Appl
Sequence 1, Appl
Sequence 12, Appl
Sequence 12, Appl
Sequence 97, Appl
Sequence 91, Appl
Sequence 101, Appl
Sequence 103, Appl
Sequence 109, Appl
Sequence 109, Appl
Sequence 113, Appl
Sequence 113, Appl
Sequence 113, Appl
Sequence 117, Appl
                                                                                  January 29, 2003, 10:46:52; Search time 5.67273 Seconds (without alignments) 46.243 Million cell updates/sec
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1: /cgn2_6/ptodata/1/pubpaa/USO8_NEW_PUB.pep:*
2: /cgn2_6/ptodata/1/pubpaa/USO8_NEW_PUB.pep:*
3: /cgn2_6/ptodata/1/pubpaa/USO6_NEGONB_OPD:*
5: /cgn2_6/ptodata/1/pubpaa/USO6_NEGONB_OPD:*
5: /cgn2_6/ptodata/1/pubpaa/USO7_NEW_PUB.pep:*
6: /cgn2_6/ptodata/1/pubpaa/USO7_PUBCOMB.pep:*
7: /cgn2_6/ptodata/1/pubpaa/PCTUS_PUBCOMB.pep:*
8: /cgn2_6/ptodata/1/pubpaa/USO9_NEW_PUB.pep:*
9: /cgn2_6/ptodata/1/pubpaa/USO9_NEW_PUB.pep:*
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12: /cgn2_6/ptodata/1/pubpaa/USO0_PUBCOMB.pep:*
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14: /cgn2_6/ptodata/1/pubpaa/USO0_PUBCOMB.pep:*
14: /cgn2_6/ptodata/1/pubpaa/USO0_PUBCOMB.pep:*
GenCore version 5.1.3
Copyright (c) 1993 - 2003 Compugen Ltd.
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                                                                                                                                                                                                                                                 122226 seqs, 20178551 residues
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                                                                                                                                                                                                                                                                                                                                                      Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                    OM protein - protein search, using sw model
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Gapop 10.0 , Gapext 0.5
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56
1 AKXVAAWTLKAAX 13
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Match Length
                                                                                                                                           Title:
Perfect score:
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                                                                                     Run on:
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113, 1111, 1111, 1113, 89, 91, 105, 1137, 123,	Sequence 12, Appl Sequence 14, Appl Sequence 36, Appl Sequence 36, Appl Sequence 3765, Appl Sequence 2, Appl Sequence 19, Appl Sequence 19, Appl Sequence 19, Appl Sequence 19, Appl Sequence 19, Appl	ID NO: 17.	Indels 0; Gaps 0;
10 US-09-894-018-119 10 US-09-894-018-125 10 US-09-894-018-121 10 US-09-894-018-13 10 US-09-894-018-81 10 US-09-894-018-81 10 US-09-894-018-91 10 US-09-894-018-10 10 US-09-894-018-10 10 US-09-894-018-10 10 US-09-894-018-12 10 US-09-894-018-12 10 US-09-894-018-12 10 US-09-894-018-12 10 US-09-894-018-12 10 US-09-894-018-12		al. **DOWN-REGULATING IGE \$/09/949,375A 18 amino acid sequence of Score 53; DB 9; Len Pred; No. 0.0016;	0, Mismatches 1; II
169 180 206 219 255 277 277 280 280 308 340 419 519		plication US/C 020172673A1 TION: SNER; Steen et SNER; S1-0111P ATION NUMBER: DATE: 2002-0 ID NOS: 38 OLIN version 3 ificial Sequen ificial Sequen TION: Syntheti	Conservative
20 21 22 23 24 24 25 26 26 27 28 29 29 30 31 31 33 49	410 00 C B Q C B O M 410	Ca Langa HRR HHROAL Fee	Matches 11;

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Sequence 7, Application US/09983019
; Patent No. US20020146820A1
; Genera L. US20020146820A1
; GENERAL INFORMATION:
    APPLICANT: Diamond, Don J.
    TITLE OF INVENTION: IMMUNOREACTIVE PEPTIDE CTL EPITOPES OF HUMAN CYTOMEGALOVIRUS PP15(
    FILE REFERENCE: 1954-347US
    CURRENT APPLICATION NUMBER: US/09/983,019
    CURRENT FILING DATE: 2001-10-22
    FPICR APPLICATION NUMBER: US 60/241,944
    FRIOR PILING DATE: 2000-10-20
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                                                                                                                                                                                                                                                                                                                                                                                                     Query Match 94.6%; Score 53; DB 10; Length 24; Best Local Similarity 100.0%; Pred. No. 0.0029; Matches 12; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LOCATION: (6)..(6)
OTHER INFORMATION: X = cyclohexylalanine or phenylalanine
NAME/KEY: LIPID
                                                                                                                        FEATURE:
NAME/KEY: misc feature
| LOCATION: ()..(7)
| COCATION: ()..(7)
| OTHER INFORMATION: Human cytomegalovirus vaccine peptice
| NAME/KEY: VARIANT |
| LOCATION: (3)..(3)
| OTHER INFORMATION: X = cyclohexylalanine or phenylalanine
US-09-983-019-10
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LOCATION: ()...()
OTHER INFORMATION: Human cytomegalovirus vaccine peptide
LOCATION: (6)..(6)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TYPE: PRT ORGANISM: Artificial Sequence
                               LENGTH: 24
TYPE: PRT
ORGANISM: Artificial Sequence
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Matches 12; Conserv
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US-09-983-019-4
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SEQ ID NO 10
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Sequence 10, Application US/09983019
GENERAL INFORMATION:
APPLICANT: Diamond, Don J.
TITLE OF INVENTIONS: IMMUNORACTIVE PEPTIDE CTL EPITOPES OF HUMAN CYTOMEGALOVIRUS PP15
FILE REPERENCE: 1954-347US
CURRENT APPLICATION NUMBER: US/09/983,019
PRIORE PILING DATE: 2001-10-22
PRIORE APPLICATION NUMBER: US 60/241,944
PRIORE APPLICATION NUMBER: US 60/241,944
NUMBER OF SEQ ID NOS: 14 100-10-20
NUMBER OF SEQ ID NOS: 14 100-10-20
SOFTWARE: PATENTIN OF SECTION OF SE
                                                                                                                               OTHER INFORMATION: artificial T-cell epitope capable of binding to a large portion OTHER INFORMATION: of MHC Class II molecules in a variety of animals
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Best Local Similarity 91.7%; Pred. No. 0.0016;
Matches 11; Conservative 0; Mismatches 1; Indels
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APPLICANT: Sette, Alessandro
APPLICANT: Sette, Alessandro
APPLICANT: Sette, Alessandro
APPLICANT: Livingston, Brian
APPLICANT: Livingston, Brian
APPLICANT: Baker, Denisw
APPLICANT: Baker, Denisw
APPLICANT: Brown, David
TITLE OF INVENTION: METORS AND FEFTIDES THEREBY
TITLE OF INVENTION: MINIGENES AND PEPTIDES THEREBY
TITLE OF INVENTION: MINIGENES AND PEPTIDES THEREBY
FILE REFERENCE: 39963-2003.00
CURRENT APPLICATION NUMBER: US/09/894,018
PRIOR FILING DATE: 2000-12-28
PRIOR FILING DATE: 2000-12-28
PRIOR FILING DATE: 1999-12-28
PRIOR FILING DATE: 2001-4-16
NUMBER OF SEQ ID NOS: 368
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 69
LENGTH: 13
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Patent No. US20020119127A1
GENERAL INFORMATION:
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       LENGTH: 13
TYPE: PRT
ORGANISM: Artificial Sequence
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Best Local Similarity 91.7
Matches 11; Conservative
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1 AKFVAAWTLKAA 12
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US-09-983-019-10
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                                                                                                          FEATURE:
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US-09-894-018-101

Sequence 101, Application US/09894018

Sequence 101, Application US/09894018

Sequence 102, Application US/09894018

GENERAL INFORMATION:
APPLICANT: EPINMUNE, Inc.
APPLICANT: Sette, Alessandro
APPLICANT: Chestnut, Robert
APPLICANT: Livingston, Brian
APPLICANT: Baker, Denisw
APPLICANT: Bowan, Mark
APPLICANT: Bowan, Mark
APPLICANT: Bowen, Barian
APPLICANT: Baker, Barian
APPLICANT: Baker, Berling Date: 2001-06-27

FRIOR FILING DATE: 2001-06-27

FRIOR APPLICATION NUMBER: US 60/173,390

PRIOR APPLICATION NUMBER: US 60/284,221

PRIOR APPLICATION NUMBER: US 60/284,221

PRIOR APPLICANTION NUMBER: US 60/284,221

NUMBER OF SEQ ID NOS: 368

SOFTWARE: FastSEQ for Windows Version 4.0

SEQ ID NO 101 SEG
              PRIOR FILING DATE: 1999-12-28
PRIOR PELLING DATE: 2001-04-16
NUMBER OF SEQ ID NOS: 368
SOFTWARE: FASEUSE for Windows Version 4.0
SEQ ID NO 97
LENGTH: 80
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Patent No. US20020119127A1
GENERAL INFORMATION:
APPLICANT: EPIMMUNE, Inc.
APPLICANT: Sette, Alessandro
APPLICANT: Chestnut, Robert
APPLICANT: Livingston, Brian
                                                                                                                                                                                                                                                                                       ; OTHER INFORMATION: HCV.3s2(-3)
US-09-894-018-97
                                                                                                                                                                                                          TYPE: PRT
ORGANISM: Artificial Sequence
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ORGANISM: Artificial Sequence
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US-09-894-018-101
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Best Local Similarity
Matches 11; Conserval
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US-09-894-018-95
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US-09-949-375A-12
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                                                                                                                                                                                                                   LOCATION: ()...()
OTHER INFORMATION: Human cytomegalovirus vaccine peptide
NAME/KRS: VARIANT
LOCATION: (17)...(17)
OTHER INFORMATION: X = cyclohexylalanine or phenylalanine
US-09-983-019-0
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| Patent No. US2002011127A1
| GENERAL INCORMATION:
| APPLICANT: EPIMMUNE, Inc.
| APPLICANT: EPIMMUNE, Inc.
| APPLICANT: Chestrut, Robert
| APPLICANT: Chestrut, Robert
| APPLICANT: Inivingston, Brian
| APPLICANT: Newman, Mark
| APPLICANT: Seven, David
| TITLE OF INVENTION: METODS AND SYSTEM FOR OPTIMIZING
| TITLE OF INVENTION: METODS AND SYSTEM FOR OPTIMIZING
| TITLE OF INVENTION: MINGENES AND PEPTIDES THEREBY
| FILLE REFERENCE: 39963-220033.00
| CURRENT FILLING DATE: 2001-06-27
| PRIOR APPLICATION NUMBER: US/09/894,018
| PRIOR APPLICATION NUMBER: US 60/173,390
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 12, Application US/09949375A;
Patent No. US20020172673A1
GENERAL INFORMATION:
APPLICANT: KLYSNER, Steen et al.
TITLE OF INVENTION: METHOD FOR DOWN-REGULATING IGE
FILE REFERENCE: 3631-0111P
CURRENT APPLICATION UNMER: US/09/949,375A;
CURRENT APPLICATION UNMER: US/09/949,375A;
NUMBER OF SEQ ID NOS: 38
SOFTWARE: PatentIn version 3.1
SEQ ID NO 12
NUMBER OF SEQ ID NOS: 14
SOFTWARE: PatentIn version 3.0
SEQ ID NO 7
                                                                                                                    TYPE: PRT
ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TYPE: PRT
ORGANISM: Artificial Sequence
                                                                                                                                                                FEATURE: NAME/KEY: misc_feature
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US-09-894-018-97
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Query Match
Best Local Similarity 91.7%; Pred. No. 0.012;
Matches 11; Conservative 0; Mismatches 1; Indels
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US-09-894-018-109
is Sequence 109, Application US/09894018
is Patent No. US2002019127A1
is GENERAL INFORMATION:
APPLICANT: BETHE, Livingston, Brian
APPLICANT: Chestnut, Robert
APPLICANT: Chestnut, Robert
APPLICANT: Livingston, Brian
APPLICANT: Livingston, Brian
APPLICANT: Newman, Mark
APPLICANT: Bacar, Denisw
APPLICANT: Brown, David
TITLE OF INVENTION: MINDERNES AND PEPTIDES THEREBY
TITLE OF TATELING DATE: 2001-06-27
PRIOR APPLICATION NUMBER: US 60/284, 21
PRIOR PILING DATE: 2000-012-28
PRIOR FILING DATE: 2000-012-28
PRIOR PILING DATE: 2000-012-28
PRIOR APPLICATION NUMBER: US 60/284, 221
PRIOR APPLICANTON NUMBER: US 60/284, 221
PRIOR APPLICANTON NUMBER: US 60/284, 221
PRIOR APPLICATION NUMBER: US 60/284, 2
                                                                                                                                                        US-09-84-018-103
Sequence 103. Application US/09894018
Patent No. US20020119127A1
GENERAL INFORMATION:
APPLICANT: EPINMUNE, Inc.
APPLICANT: EPINMUNE, Inc.
APPLICANT: Chestnut, Robert
APPLICANT: Livingston, Brian
APPLICANT: Livingston, Brian
APPLICANT: Baker, Denisw
APPLICANT: Newman, Mark
APPLICANT: Brown, David
TITLE OF INVENTION: MARTOS AND PEPTIDES THEREBY
FILE REFERENCE: 3963-2003.00
CURRENT FILING DATE: 2001-66-27
FRIOR APPLICATION NUMBER: US/09/894,018
CURRENT APPLICATION NUMBER: US/09/894,018
CURRENT FILING DATE: 2000-12-28
PRIOR APPLICATION NUMBER: US 60/173,390
PRIOR FILING DATE: 2001-04-16
NUMBER OF SEQ ID NOS: 368
SOFTWARE FRASERE FASTERE OF Windows Version 4.0
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ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TYPE: PRT ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  OTHER INFORMATION: HCV. PC4
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                                                                                                  RESULT 12
US-09-894-018-103
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94.6%; Score 53; DB 10; Length 107;

Best Local Similarity 91.7%; Pred. No. 0.012;

Matches 11; Conservative 0; Mismatches 1; Indels
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Best Local Similarity 91.7%; Pred. No. 0.012;
Matches 11; Conservative 0; Mismatches 1; Indels
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APPLICANT: Sette, Alessandro
APPLICANT: Sette, Alessandro
APPLICANT: Chestnut, Robert
APPLICANT: Livingston, Brian
APPLICANT: Baker, Denisw
APPLICANT: Baker, Denisw
APPLICANT: Baren, David
TITLE OF INVENTION: MINIGERE AND PEPTIDES THEREBY
TITLE OF INVENTION: MINIGERE AND PEPTIDES THEREBY
TITLE OF INVENTION: MINIGERE AND PEPTIDES THEREBY
TITLE OF INVENTION: MONBER: US/09/894,018
CURRENT FILING DATE: 2001-06-27
PRIOR APPLICATION NUMBER: PCT/US0/35568
PRIOR FILING DATE: 2000-12-28
PRIOR FILING DATE: 2000-12-28
PRIOR PLING DATE: 2001-04-16
NUMBER OF SEQ ID NOS: 368
SOCTHWARE: FastSEQ for Windows Version 4.0
SEQ ID NOS: 368
APPLICANT: Baker, Denisw
APPLICANT: Newman, Mark
APPLICANT: Newman, Mark
APPLICANT: Newman, Mark
APPLICANT: Newman, David
TITLE OF INVENTION: MINIGENES AND PEPTIDES THEREBY
TITLE OF INVENTION: MINIGENES AND PEPTIDES THEREBY
CURRENT PAPLICATION NUMBER: US/09/894.018
CURRENT FILING DATE: 2001-06-27
PRIOR APPLICATION NUMBER: US 60/173,390
PRIOR APPLICATION NUMBER: US 60/173,390
PRIOR APPLICATION NUMBER: US 60/173,390
PRIOR FILING DATE: 1999-12-28
PRIOR PELICATION NUMBER: US 60/284,221
PRIOR FILING DATE: 1990-12-8
SRIOR FILING DATE: 10001-04-16
NUMBER OF SEQ ID NOS: 368
SOFTWARE: PASESEQ for Windows Version 4.0
SEQ ID NO 95
TUBNIC PRIOR PERIOR PRIOR PERIOR PERIOR
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; Sequence 93, Application US/09894018
; Patent No. US20020119127A1
; GENERAL INFORMATION:
; APPLICANT: EPIMMUNE, INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TYPE: PRT
ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TYPE: PRT: ORGANISM: Artificial Sequence FATURE: OTHER INFORMATION: HCV.3s2 US-09-894-018-95
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US-09-894-018-93
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                                                                                                   Query Match

Query Match

94.6%; Score 53; DB 10; Length 123;

Best Local Similarity 91.7%; Pred. No. 0.014;

Matches 11; Conservative 0; Mismatches 1; Indels

Matches 11; Conservative 0; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: ESTEMANUM. Inc.
APPLICANT: Sette, Alessandro
APPLICANT: Chestnut, Robert
APPLICANT: Chestnut, Robert
APPLICANT: Chestnut, Robert
APPLICANT: Chestnut, Mark
APPLICANT: Baker, Denisw
APPLICANT: Baker, Denisw
APPLICANT: Baker, Denisw
APPLICANT: Barcom, David
TITLE OF INVENTION: MINIGENES AND PEPTIDES THEREBY
TITLE OF INVENTION NUMBER: US/09/894,018
CURRENT FILING DATE: 2001-06-27
PRIOR PELLING DATE: 1999-12-28
PRIOR PELLING DATE: 1999-12-28
PRIOR PELLING DATE: 2001-04-16
NUMBER OF SEQ ID NOS: 368
SEQ ID NO 99
LEAGTH: 130
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Fatent No. US20020119127A1
GENERAL INFORMATION:
APPLICANT: EPIMMUNE, Inc.
APPLICANT: Chestruct. Robert
APPLICANT: Chestruct. Robert
APPLICANT: Livingston, Brian
APPLICANT: Livingston, Brian
APPLICANT: Baker, Denisw
APPLICANT: Bewn, David
ITILE OF INVENTION: METODS AND SYSTEM FOR OPTIMIZING
ITILE OF INVENTION: MINIGENES AND PEPTIDES THEREBY
FILE REFERENCE: 39963-20033.00
CURRENT APPLICATION NUMBER: US/09/894,018
CURRENT FILING DATE: 2001-06-27
FRIOR APPLICATION NUMBER: PCT/US00/35568
                                                                                                                                                                                                                                                                                                                                                                                Sequence 99, Application US/09894018
Patent No. US20020119127A1
GENERAL INFORMATION:
APPLICANT: Sette, Alessandro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
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US-09-894-018-99
; FEATURE:
; OTHER INFORMATION: AOSI.K
US-09-894-018-109
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US-09-894-018-129
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US-09-894-018-99
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... /cgn2 6/ptodata/1/iaa/6A_COMB.pep:*
... /cgn2 6/ptodata/1/iaa/6A_COMB.pep:*
... /cgn2 6/ptodata/1/iaa/PtTUS COMB.pep:*
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... /cgn2 6/ptodata/1/iaa/PtTUS COMB.pep:*
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(c) 1993 - 2003 Compugen Ltd.
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US-09-075-257A-15
US-09-075-257A-15
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US-09-3105-11
US-08-21-25
US-09-212-200-11
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Maximum Match 100%
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1 AKXVAAWTLKAAX 13
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Maximum DB seq length: 200000000
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Sequence 73, Appl Sequence 73, Appl Sequence 5, Appli Sequence 6, Appli Sequence 6, Appli Sequence 10, Appl Sequence 10, Appl Sequence 17, Appl Sequence 2, Appli Sequence 2, Appli	using Pan
US-09-232-197-73 US-09-232-201-73 US-09-458-481B-4 US-09-458-481B-5 US-09-458-481B-6 US-09-458-481B-6 US-09-10-158-4 US-09-10-158-4 US-09-10-10-158-4 US-09-10-10-10-10-10-10-10-10-10-10-10-10-10-	ALIGNMENTS 105871A rey L. Lion of Immune Response ding Peptides Townsend and Crew Lib Center, Eighth Floor Center, Eighth Floor Se #1.0, Version #1.30 8/305,871A 8/121,101 11437-0062-10 01:
57.1. 689 4 57.1. 689 4 57.1. 689 4 57.1. 695 4 57.1. 695 4 57.1. 830 1 57.1. 830 1 55.4 402 1 55.4 472 3 55.4 472 3 55.4 472 3 55.4 472 3 55.4 472 3 55.4 472 3	ion US/00 Alessanc Federicc Howard M der, John Ger, Joff Toron Ser, Joff Ser
228 333 333 333 344 442 443 4443 4443 4544	NESULT 1 US-08-305-871A-22 Sequence 22, Application U Patent No. 5736142 GENERAL INFORMATION: APPLICANT: Sette, Ales APPLICANT: Gaeta, Fede APPLICANT: Gaeta, Fede APPLICANT: Gaeta, Howar APPLICANT: Alexander, ITILE OF INVENTION: Al ITILE OF INVENTION: Al ITILE OF INVENTION: DA NUMBER OF SEQUENCES: 2 CORRESPONDENCES: 2 CORRESPONDENCES: DA STREET: Two Embarcad CITY: San Francisco STREET: Two Embarcad STREET: Two Embarcad COUNTRY: USA ZIP: 94111-3834 COMPUTER READABLE FORM: MEDIUM TYPE: FLUENCY DATA: APPLICATION NUMBER: FILING DATE: 14-SEP- CLASSIFICATION NUMBER: FILING DATE: 14-SEP- APPLICATION NUMBER: FILING DATE: 14-SEP- APPLICATION NUMBER: FILING DATE: 14-SEP- APPLICATION NUMBER: FERERNEC-FOCKET INFORMAT NAME: Bastian, Kevinh REGISTRATION NUMBER: REPERRENCE-FOCKET INFORMAT NAME: Bastian, Kevinh REGISTRATION NUMBER: TELEPHONE: (415) 576 TELEPHONE: (415) 576 TELEPHONE: (415) 576 TELEPHONE: (415) 576 TELEPHONE: Ja maino acid STREET S
	8.00 C C C C C C C C C C C C C C C C C C

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94.6%; Score 53; DB 4; Length 13; 100.0%; Pred. No. 0.0027; Live 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COUNTRY: USA

ZIP: 94111-3834

COMBUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM FC Compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFWWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
PLING DATE: 23-JAN-1997
CLASSIFICATION NUMBER: US/08/788,822A
FILING DATE: 23-JAN-1997
FILING DATE: 24-JAN-1996
ATTORNEY/AGENT INFORMATION:
NAME: Bastlan, Kevin L.
REGISTRATION NUMBER: 014137-009210US
FILING DATE: 10 FORMATION:
NAME: PRESTENTION NUMBER: 014137-009210US
TELECOMUNICATION INFORMATION:
TELECOMUNICATION INFORMATION:
TELECOMUNICATION INFORMATION:
TELEFAX: (415) 576-0200
ITELEFAX: (415) 576-0200
INFORMATION FOR SEQ ID NO: 26:
SEQUENCE CHARACTERISTICS:
INFORMATION FOR SEQ ID NO: 26:
SEQUENCE CHARACTERISTICS:
INFORMATION FOR SEQ ID NO: 26:
SEQUENCE CHARACTERISTICS:
INFORMATION CONTINGER:
STRANDENNESS:
TOPOLICAY: Linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 OTHER INFORMATION: /product= "OTHER"
OTHER INFORMATION: /note= "Xaa = cyclohexylalanine"
US-08-768-822A-26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NAME/KEY: Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Best Local Similarity 100.
Matches 12; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TOPOLOGY: linear
MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 AKXVAAWTLKAA 12
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                                                                                                                                                                                                         RESULT 2
US-08-305-871A-23
) Sequence 23, Application US/08305871A
) Patent No. 5736142
) GENERAL INFORMATION:
APPLICANT: Gaeta, Federico
APPLICANT: Gaeta, Federico
APPLICANT: Gata, Howard M.
APPLICANT: Aldney, John
TITLE OF INVENTION: Alteration of Immune Response Using Pan
TITLE OF INVENTION: Alteration of Immune Response Using Pan
TITLE OF INVENTION: Alteration of Immune Response Using Pan
TITLE OF INVENTION: Alteration of Immune Response Using Pan
TITLE OF INVENTION: Alteration of Immune Response Using Pan
TITLE OF INVENTION: Alteration of Immune Response Using Pan
TITLE OF INVENTION: Alteration of Immune Response Using Pan
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TITLE OF INVENTION: Alteration of Immune Response Using Pan
TITLE OF INVENTION: Alteration of Immune Response Using Pan
TITLE OF INVENTION: Alteration of Immune Response Using Pan
TITLE OF INVENTION: Alteration of Immune Response Using Pan
TITLE OF INVENTION: Alteration of Immune Response Using Pan
TITLE OF INVENTION: Alteration
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                                                                                                      Query Match 94.6%; Score 53; DB 1; Length 13; Best Local Similarity 100.0%; Pred. No. 0.0027; Matches 12; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 53; DB 1; Length 13;
Pred. No. 0.0027;
0; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMMUTER READABLE FORM:

MEDIUM TYPE: Floppy disk
MEDIUM TYPE: Floppy disk
COMPUTER: BALCHED
COMPUTER: Patchel
COMPUTER: Patchel
COMPUTER: Patchel
COMPUTER: Patchel
COMPUTER: Patchel
COMPUTER: Patchel
SOFTWARE: Patchel
RELEGATION NUMBER: US/08/305,871A
FILING DATE: 14-SEP-1994
CLASSIFICATION NUMBER: US 08/121,101
FILING DATE: 14-SEP-1993
ATTORNEY/AGENT INFORMATION:
NAME: Bastian, Kevin L.
REGISTRATION NUMBER: 34,774
REFERENCE/DOCKET NUMBER: 34,774
REFERENCE/DOCKET NUMBER: 14137-0062-10
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 576-0200
INFORMATION FOR SEQ ID NO: 23:
SEQUENCE CHARACTERISTICS:
TURNORMATION acids
TURNORMATION acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LOCATION: 1..13 ----
CTHER INFORMATION: /note= "Peptide wherein X is CTHER INFORMATION: tyrosine or phenylalanine."
US-08-305-871A-23
; OTHER INFORMATION: tyrosine or phenylalanine."
US-08-305-871A-22
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91.7%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity 91.7
Matches 11; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TOPOLOGY: linear
MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 AKKVAAWTLKAA 12
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
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GENERAL INFORMATION:
APPLICANT: Diamond, Don J
APPLICANT: TORK, JOANNE
TITLE OF INVENTION: INMUNO-REACTIVE PEPTIDE CTL EPITOPES OF HUMAN
TITLE OF INVENTION: CYTOMEGALOVIRUS
FILE REFERENCE: 1594-343
CURRENT APPLICATION NUMBER: US/09/534,639
CURRENT APPLICATION NUMBER: US/09/534,639
CURRENT APPLICATION NUMBER: 09/075,257
EARLIER APPLICATION NUMBER: 09/021,298
EARLIER PILING DATE: 1998-05-11
EARLIER APPLICATION NUMBER: 09/021,298
EARLIER APPLICATION NUMBER: 08/55,064
EARLIER APPLICATION NUMBER: 08/55,064
EARLIER APPLICATION NUMBER: 08/55,064
EARLIER PILING DATE: 1997-10-14
EARLIER PILING DATE: 1997-11-12
NUMBER OF SEQ ID NOS: 20
SOFTWARE: PATENTING DATE: 1996-11-12
SEQ ID NO 17
EARLIER PLENTH: 25
ENTRY SEG ID NOS: 20
ENTRY SEQ ID NOS: 20
ENTRY SEC ID NOS: 20
ENTRY SED ID NOS: 20
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US-09-534-639-17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LOCATION: (6)
OTHER INFORMATION: Xaa = cyclohexylalanine or phenylalanine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
94.6%; Score 53; DB 3; Length 25;
Best Local Similarity 100.0%; Pred. No. 0.0052;
Matches 12; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          94.6%; Score 53; DB 4; Length 25; 100.0%; Pred. No. 0.0052;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LOCATION: 6
7 OTHER INFORMATION: /note= "Xaa = cyclohexylalanine"
7 OTHER INFORMATION: or phenylalanine"
US-09-075-257A-17
APPLICATION NUMBER: US 08/950,064
FILING DATE: 14-0-CT-1997
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/747,488
FILING DATE: 12-NOV-1996
ATTORNEY/AGENT INFORMATION:
NAME: NEMILAND, BART G
REGISTRATION NUMBER: 19-4-112CP3
TELEPHONE: 202-783-6040
TELEPHONE: 202-783-6040
                                                                                                                                                                                                                       1954-112CP3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 17, Application US/09534639
Patent No. 6251399
                                                                                                                                                                                                                                                                                                                                                                                                                             STRANDEDNESS: not relevant
TOPOLOGY: not relevant
MOLECULE TYPE: peptide
FRAGMENT TYPE: internal
                                                                                                                                                                                                                                                                                                                       INFORMATION FOR SEQ ID NO: 17: SEQUENCE CHARACTERISTICS: LENGTH: 25 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
NAME/KEY: VARIANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 AKXVAAWTLKAA 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4 AKXVAAWTLKAA 15
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Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NAME/KEY: Domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-09-534-639-17
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; Patent No. 6074645;
; GENERAL INFORMATION:
; APPLICAMT: DIAMOND, DON JEFFREY
APPLICAMT: DIAMOND, DON JEFFREY
; TITLE OF INVENTION: IMMUNO-REACTIVE PEPTIDE CTL EPITOPES
; TITLE OF INVENTION: OF HUMAN CYTOMEGALOVIRUS
; NUMBER OF SEQUENCES: 20
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: BART G. NEWLAND
; STREET: S55 13TH STREET, NW SUITE 701E
; CITY: MASHINGTON
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 53; DB 4; Length 13;
Pred. No. 0.0027;
0; Mismatches 1; Indels
                                                                                                COMPTRY: USA

ZIP: 9411.334
ZIP: 9411.334
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM FC compatible
OPERATING SYSTEM: PC Compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION NOTHER: US/OF/R8,822A
FILING DATE: 23.43A-1997
CLASSIFICATION NOTHER: US/OF/R8,822A
FILING DATE: 24.43A-1996
ATTORNEY/AGENT INFORMATION:
FLIEUGO DATE: 24.53A-1996
ATTORNEY/AGENT INFORMATION:
REFERENCE/DOCKET NUMBER: 34,774
REFERENCE/DOCKET NUMBER: 34,774
REFERENCE/DOCKET NUMBER: 30,137
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECHOURE: (415) 5.76-0.200
TELECHOURE: (415) 5.76-0.200
TELECHOURE: ASEQ ID NO: 27:
SEQUENCE CHARACTERISTICS:
ENGTH: 13 amino acids
TYPE: amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SOFTWARE: Patentin Release #1.0, Version #1.30 CURRENT APPLICATION DATA:
APPLICATION NOBER: US/09/075,257A
TILING DATE: 11.MAY-1998
CLASSIFICATION: 424
PRIOR APPLICATION DATA:
APPLICATION NOBER: US 09/021,298
FILING DATE: 10-FEB-1998
PRIOR APPLICATION DATA:
  ADBRESSEE: Townsend and Townsend and Crew LLP STREET: Two Embarcadero Center, Eighth Floor CITY: San Francisco STATE: California
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COUNTRY: USA
ZIP: 20004
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity 91.7%;
Matches 11; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TOPOLOGY: linear
MOLECULE TYPE: peptide
1-788-822A-27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 AKKVAAWTLKAA 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 AKFVAAWTLKAA 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TYPE: amino acid
STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-08-788-822A-27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-09-075-257A-17
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RESULT 8
US-09-075-257A-16
| Sequence 16, Application US/09075257A |
| Sequence 16, Application US/09075257A |
| Patent No. 6074645 |
| GENERAL INFORMATION: |
| APPLICANT: DIAMOND, DON JEFFREY APPLICANT: OF INVENTION: |
| TITLE OF INVENTION: OF HUMAN CYTOMEGALOVIRUS |
| TITLE OF INVENTION: OF HUMAN CYTOMEGALOVIRUS |
| NUMBER OF SEQUENCES: 20 |
| CORRESPONDENCE ADDRESS: ADDRESSE: BART G. NEWLAND |
| STREET: 555 13TH STREET, NW SUITE 701E |
| CITY: NAMINGTON |
| CITY: NAMINGTON |
| CITY: NEW SUITE FORE STREET |
| CITY: NAMINGTON |
| CITY: NEW SUITE FORE STREET |
| CITY: NEW SUITE STREET |
| CITY: NEW STREET
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match 94.6%; Score 53; DB 3; Length 28; Best Local Similarity 100.0%; Pred. No. 0.0058; Matches 12; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /note= "Xaa = cyclohexylalanine
or phenylalanine"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SCHYET BOC COUNTRY: USA ZIP: DC COUNTRY: USA ZIP: Z0004 E PLOUPY disk COMPUTER READABLE FORM: MEDIUM TYRE: Floppy disk COMPUTER. IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: PATEUTIN Release #1.0, Version #1.30 CURRENT APPLICATION DATA: APPLICATION NUMBER: US/09/075,257A FILING DATE: 11-MAY-1998 CLASSIFICATION NUMBER: US 09/021,298 FILING DATE: 10-FREB-1998 FILING DATE: 14-OCT-1997 FILING DATE: 12-NOV-1996 FILING DATE: 12-NOV-1996 FILING DATE: 12-NOV-1996 ATTORNEY/AGENT INCRMATION: NAME: NEWLAND BART G
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        REFERENCE/DOCKET NUMBER: 1554-112CP3
TELECOMMUNICATION INFORMATION:
TELEPHONE: 202-783-6040
TELEFAX: 202-783-6031
INFORMATION FOR SEQ ID NO: 16:
SEQUENCE CHARACTERISTICS:
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US-09-515
US-09-515; Sequence 15, Application US/09534639; Patent No. 6221399
; GENEAL INFORMATION:
; APPLICANT: Diamond, Don J
; APPLICANT: York, Joanne
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                31,282
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TOPOLOGY: not relevant
MOLECULE TYPE: peptide
FRAGMENT TYPE: internal
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REGISTRATION NUMBER: 3
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; OTHER INFORMATION:
; OTHER INFORMATION:
US-09-075-257A-16
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STRANDEDNESS: not
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| Sequence 15, Application US/09075257A |
| Sequence 15, Application US/09075257A |
| Sequence 15, Application US/09075257A |
| Patent No. 6074645 |
| GENERAL INFORMATION: |
| APPLICANT: DIAMOND, DON JEFFREY |
| APPLICANT: OF NORK, JOANNE |
| TITLE OF INVENTION: OF HUMAN CYTOMEGALOVIRUS |
| NUMBER OF SEQUENCES: 20 |
| CORRESPONDENCE ADDRESS: |
| ADDRESSEE: BART G. NEMLAND |
| STREET: SES 13TH STREET, NW SUITE 701E |
| CITY: MASHINGTON |
| CITY: WASHINGTON |
| CORRESPONDENCE ADDRESS: |
| CORRESPONDENCE ADDRESS: |
| STREET: SES 13TH STREET, NW SUITE 701E |
| CITY: MASHINGTON |
| CITY: MASHINGTON |
| CORRESPONDENCE ADDRESS: 
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                                 Indels
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ZIP: 2000

COMPUTER: EPOPPY disk

MEDIUM TYPE: Floppy disk

COMPUTER: TBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: PATENTIN Release #1.0, Version #1.30

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/09/075,257A

FILING DATE: 11-MAY-1998

CLASSIFICATION DATA:

PRIOR APPLICATION DATA:

APPLICATION NUMBER: US 09/021,298

FILING DATE: 10-FEB-1996

PRIOR APPLICATION DATA:

APPLICATION NUMBER: US 08/950,064

FILING DATE: 14-CCT-1997

PRIOR APPLICATION NUMBER: US 08/950,164

FILING DATE: 12-NOV-1996

APPLICATION NUMBER: US 08/747,488

FILING DATE: 12-NOV-1996

ATTORNEY/AGENT INFORMATION:

NAME: NEMBAND, BART G

REGISTRATION NUMBER: 1954-112CP3

TELECOMMUNICATION INFORMATION:

TELEFAX: 202-783-6040

INFORMATION FOR SEQ ID NO: 15:

SEQUENCE CHARACTERISTICS:

LENGTH: 28 amino acids

TTELEFAX: not relevant

"TOS: peptide

"TOS: peptide
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or phenylalanine"
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                                      Mismatches
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; OTHER INFORMATION: or
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; OTHER INFORMATION: or
                                      Matches 12; Conservative
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LOCATION: 6
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Pred. No. 0.0058;

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Best Local Similarity 100.0%; P:
Matches 12; Conservative 0;
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TITLE OF INVENTION: IMMUNO-REACTIVE PEPTIDE CTL EPITOPES OF HUMAN
TITLE OF INVENTION: CYTOMEGALOVIRUS
FILE REPERENCE: 1954-343
CURRENT APPLICATION NUMBER: US/09/534,639
CURRENT FILING DATE: 2000-03-27
EARLIER PILING DATE: 1998-05-11
EARLIER FILING DATE: 1998-05-11
EARLIER PILING DATE: 1998-05-10
EARLIER PILING DATE: 1997-10-14
EARLIER PPLICATION NUMBER: 08/950,664
EARLIER PILING DATE: 1997-110-14
EARLIER FILING DATE: 1997-110-14
EARLIER FILING DATE: 1996-11-12
NUMBER OF SEQ ID NOS: 20
SOFTWARE PAPELCHIN VET. 2.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GENERAL INFORMATION:
APPLICANT: Diamond, Don J
APPLICANT: Diamond, Don J
APPLICANT: Diamond, Don J
APPLICANT: York, Joanne
TITLE OF INVENTION: CYTCMEGALOVIRUS
TITLE OF INVENTION: CYTCMEGALOVIRUS
TITLE OF INVENTION: CYTCMEGALOVIRUS
TITLE OF INVENTION: CYTCMEGALOVIRUS
CURRENT APPLICATION NUMBER: US/09/534,639
CURRENT FILING DATE: 1980-05-1
EARLIER APPLICATION NUMBER: 09/021,296
EARLIER APPLICATION NUMBER: 09/021,296
EARLIER APPLICATION NUMBER: 09/021,296
EARLIER APPLICATION NUMBER: 08/747,488
EARLIER FILING DATE: 1997-10-14
EARLIER FILING DATE: 1997-10-14
EARLIER FILING DATE: 1997-10-14
SEARLIER FILING DATE: 1996-11-12
NUMBER OF SEQ ID NOS: 20
SOFTWARE: PALENT VOIL 20
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COTHER INFORMATION: Description of Artificial Sequence: Human; OTHER INFORMATION: Cytomegalovirus Vaccine
US-09-534-639-16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FEATURE:
O'THEN INFORMATION: Description of Artificial Sequence: Human
O'THEN INFORMATION: Cytomegalovirus Vaccine
US-09-534-639-18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LOCATION: (6)
OTHER INFORMATION: Xaa = cyclohexylalanine or phenylalanine
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 16, Application US/09534639
Patent No. 6251399
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TYPE: PRT
ORGANISM: Artificial Sequence
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ORGANISM: Artificial Sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-09-534-639-16
                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQ ID NO 15
LENGTH: 28
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94.6%; Score 53; DB 4; Length 28;

Query Match

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15.69-10-10-10

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Gaps
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Best Local Similarity 58.3%; Pred. No. 6.4e+02;
Matches 7; Conservative 1; Mismatches 4; Indels
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GENERAL INFORMATION:
APPLICANT: Kaplan, Joshua M.
APPLICANT: Oppenhemer, Allison J.
APPLICANT: Oppenhemer,
TITLE OF INVENTION: METHODS FOR THE DETECTION, TREATMENT,
TITLE OF INVENTION: AND PREVENTION OF NEURODEGENERATION
FILE REFERENCE: 00786/353001
CURRENT APPLICATION NUMBER: US/08/64,785A
CURRENT FILING DATE: 1997-05-29
NUMBER OF SEQ ID NOS: 3
SOFTWARE: FASEQ for Windows Version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match 58.9%; Score 33; DB 4; Length 13; Best Local Similarity 83.3%; Pred. No. 6.6; Matches 10; Conservative 0; Mismatches 2; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /product= "OTHER"
/note= "Xaa = cyclohexylalanine"
                                                                                                                                                                                                                                                                                                                                      SOUTHWARE: Patentin Felease #1.0, Version #1.30
SOUTHWARE: Patentin Felease #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/789,822A
FILING DATE: 23-0AN-1997
PRIOR APPLICATION DATA:
APPLICATION DATA: US 60/010,510
ATTORNEY/AGENT INFORMATION:
NAME: Bastian, Kevin L.
REGISTRATION NUMBER: 34,774
REFERENCE/DOCKET NUMBER: 014137-009210US
TELEPOMNUMICATION INPORMATION:
TELEPOMNUMICATION INFORMATION:
TELEPOMNUMICATION INFORMATION:
TELEPOMNUMICATION INFORMATION:
TELEPOMNUMICATION INFORMATION:
CORRESPONDENCE ADDRESS:
ADDRESSEE: Townsend and Townsend and Crew LLP STREET: Two Embarcadero Center, Eighth Floor CITY: San Francisco STATE: California
                                                                                                                                                       COUNTRY: USA
ZIP: 94111-3834
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC COMPatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-08-864-785-2; Sequence 2, Application US/08864785A; Patent No. 6329566
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ORGANISM: Caenorhabditis elegans
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TELEPHONE: (415) 576-0200
TELEFAX: (415) 576-0300
INFORMATION FOR SEQ. ID NO.: 24:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NAME/KEY: Modified-site
| LOCATION: 3
| OTHER INFORMATION: /prod
| US-08-788-822A-24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LENGTH: 13 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TOPOLOGY: linear
MOLECULE TYPE: peptide
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STRANDEDNESS:
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Patent No. 6413935
Patent No. 6413935
APPLICANT: Alexander, Jeffrey L.
APPLICANT: Sette, Alessandro
TITLE OF INVENTION: Induction of Immune Response Against TITLE OF INVENTION: Desired Determinants
NUMBER OF JSEQUENCES: 30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match 58.9%; Score 33; DB 1; Length 13; Best Local Similarity 83.3%; Pred. No. 6.6; Matches 10; Conservative 0; Mismatches 2; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LOCATION: 1..13
CTHER INFORMATION: /note= "Peptide wherein X is
CTHER INFORMATION: tyrosine or phenylalanine."
US-08-305-871A-20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NAME/KEY: Modified-site LOCATION: 1..13
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TYPE: amino acid
STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TOPOLOGY: linear
MOLECULE TYPE: peptide
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   RESULT 12
US-08-305-871A-20
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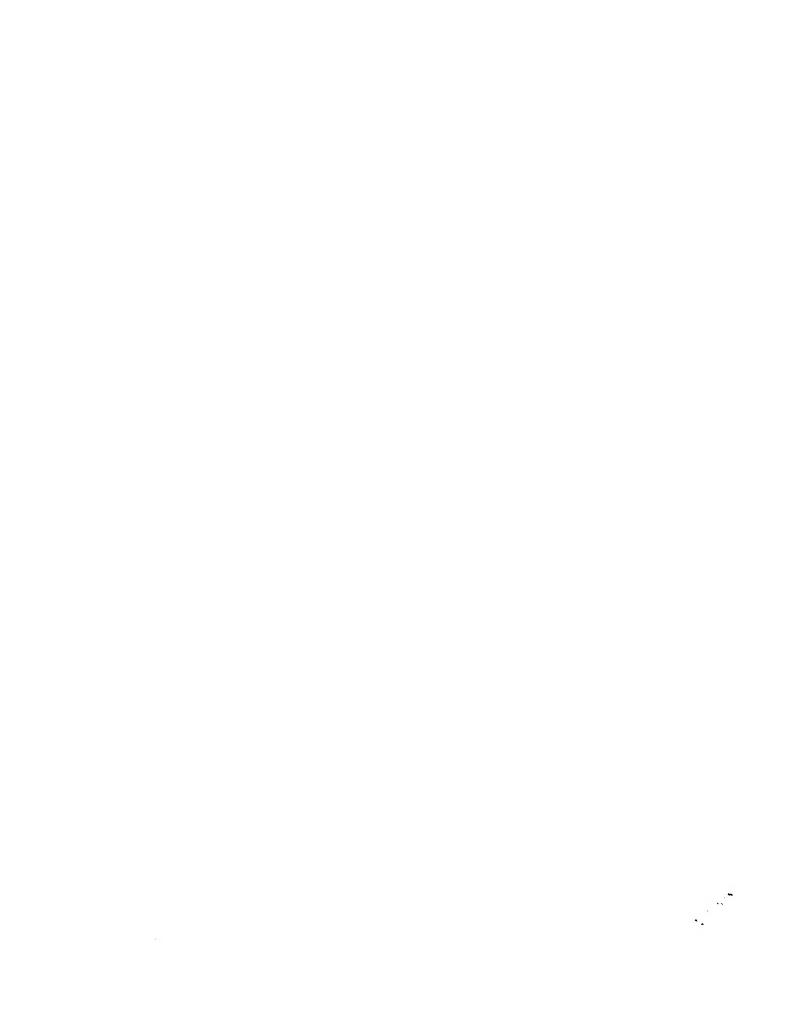
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Gapop 10.0 , Gapext 0.5
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Description	Pan DR-binding pep Padre (pan-DR bind Padre (pan-DR bind Padre (pan-DR bind Pan DR binding pep Pan DR binding pep Promiscuous T help Universal helper T Pan-DR binding pep	
SUMMARIES	AAR70249 AAR70250 AAR72121 AAR72121 AAR50125 AAR50126 AAR50126 AAR162689 AAR72558 AAR73644 AAR99709	
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Pan-DR-binding pep Pan-DR-binding pep Pan-DR-binding epi Pan-DR-binding epi PADRE peptide. Sy PADRE T-cell epito. 158PlD7 related HL Pan DR epitope pep Pan-DR-binding epi Pan-DR-bindin	Amyloid beta/paner Human cytomegalovi Molecule A SEQ ID HCMV lipidated epi Human cytomegalovi Lipidated vaccine Lipidated vaccine Lipidated vaccine	complex II;	
AAB99710 AAB99711 AAB99711 AAB99711 AAB9711 AAB20154 AAB20154 AAB401054 AAU10154 AAU1147 AAW22123 AAW22123 AAW22123 AAW22123 AAW22123 AAW22123 AAW22123 AAW22123 AAW22123	AAN B49081 AAU10836 AAU10839 AAU10843 AAU10843 AAU10843 AAU10843 AAU10843 AABP 9184 AAU10854 AAU10854 AAU10854 AAU10854 AAU10854 AAU10854 AAU10854 AAU10854 AAU10854 AAU10854 AAU10854 AAU10854 AAU10854 AAU10854 AAU10854 AAU10854 AAU10854 AAU10854	ALIGNMENTS 13 AA. ator of T cells. histocompatibility	/Qualifiers D-form residue"" OTHER cyclohexylalanine" D-form residue" 368.
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This PADRE (pan-DR binding) peptide is used in a composition for eliciting an immune response to a non-protein antigenic determinant. The composition comprises of the PADRE peptide covalently linked to the composition comprises of the PADRE peptide covalently linked to the non-protein antigenic determinant. The composition is used to induce a non-protein antigens associated with tumours or infectious agents. It provides a high level, long-lasting IgG immune response. The composition is also used to produce monoclonal antibodies which are potentially useful as therapeutic and diagnostic agents. The composition can be used useful as therapeutic and diagnostic agents. The composition can be useful as therapeutic and diagnostic agents at risk from developing antigenic determinant or to predict subjects at risk from developing chronic infections. PADRE peptides have broader specificity and higher chronic infections. PADRE peptides have broader specificity and higher then the proliferative response of human T cells restricted by at least 6 different DR molecules, and act as helper epitopes of in vivo induction
AAR70250 is capable of binding MHC class II molecules causing T cell activation. This can be used as a vaccine component. The peptide can also be used in combination with CTL peptides to enhance a CTL response.
                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Composition for eliciting immune response to non-protein determinant - comprises the determinant and a pan-DR binding peptide, used for prevention and treatment of tumours and infections
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0
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                                                                                                                       Length 13;
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                                                                                                                       Score 53; DB 16;
Pred. No. 0.0058;
0; Mismatches 1
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                                                                                                                                                                                                                                                                                                                                                   AAW22120 standard; peptide; 13 AA.
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                                                                                                                            94.6%;
91.7%;
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                                                                                                                                         Local Similarity
nes 11; Conserv
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                                                                                        Sequence
                                                                                                                              Query Match
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Matches
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                                                                                                                                                                                                                                                 Peptides capable of binding MHC class II molecules via antigen binding sites (pan DR-binding peptides) were synthesised. Peptide ARR70249; is capable of binding MHC class II molecules causing T cell activation. This is useful as a vaccine component and may be used in conjunction with CTL peptides to enhance a CTL response.
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Peptides capable of binding MHC class II molecules via antigen
binding siges (pan DR-binding peptides) were synthesised. Peptide
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                                                                                                        Inhibiting or inducing an immune response using Pan DR-binding peptide(s) - to prepare a compsn. used to treat allo:graft rejection, allergic response and auto:immunity and as a vaccine
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                                                                                                                                                                                                                                                                                                                                                                                                             94.6%; Score 53; DB 16; Length 13; 100.0%; Pred. No. 0.0058; Live 0; Mismatches 0; Indels
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                               Sidney J;
                                 Sette A,
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100.0%; Pred. .v..
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                                 Grey HM,
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                                                                                                                                                                                                                Claim 3; Page 51; 59pp; English.
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                                 Gaeta FCA,
                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match 94.6
Best Local Similarity 100.
Matches 12; Conservative
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                               Alexander JL,
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                                                                                                                                                                          component
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The present sequence, a pan DR binding peptide, is capable of binding antigen binding sites on MHC molecules, which are encoded by most of the alleles of a DR locus. The peptide can be used to inhibit or induce MHC Class II mediated activation of T-cells or helper T-cells, which themselves mediate a CTL response. The peptide can be used in mammals, especially humans, to inhibit T-cell-mediated events involved in allograft rejection, allergic responses and autoimmunity and as a vaccine adjuvant for enhancing an immune response against an administered immunogen. The peptide can be used with other immunogens to treat, e.g. prostate cancer, hepatitis B, hepatitis C, AIDS, renal and cervical carcinoma, lymphoma, CMV and condylyloma acuminatum.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Peptides that bind to MHC molecules of all DR alleles - inhibiting or inducing MHC class II mediated activation of T cells
                                                                                                                                                                                                                                                                                                        Pan DR binding peptide; antigen binding site; MHC molecule;
            Length 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 13;
                                         1; Indels
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100.0%; Pred. No. 0.0058;
ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sette A, Sidney J;
      Score 53; DB 18;
Pred. No. 0.0058;
0; Mismatches 1
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                                                                                                                                                                                                                                                                                                                                                                                      Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Grey HM,
                                                                                                                                                                                AAW50125 standard; peptide; 13 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                      /label= Tyr, Phe
        Query Match
Best Local Similarity 91.7%;
Matches 11; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  94US-0305871.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                94US-0305871.
                                                                                                                                                                                                                                                                          Pan DR binding peptide (22)
                                                                                                                                                                                                                                             (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity 100.
Matches 12; Conservative
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                                                                     1 AKXVAAWTLKAA 12
                                                                                            1 AKFVAAWTLKAA 12
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (CYTE-) CYTEL
                                                                                                                                                                                                                                             30-JUN-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  14-SEP-1994;
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14-SEP-1993;
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                                                                                                                                                                                                                                                                                                                                                         Synthetic.
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                                                                                                                                                                                                               AAW50125;
                                                                                                                                                  RESULT 5
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      eliciting an immune response to a non-protein antigenic determinant.

The composition comprises of the PADRE peptide covalently linked to the non-protein antigenic determinant. The composition is used to induce a therapeutic or prophylactic response, particularly to selected therapeutic or prophylactic response, particularly to selected polysaccharide antigens associated with tumours or infectious agents. It convides a high level, long-lashing Igd immune response. The composition is also used to produce monoclonal antibodies which are potentially useful as therapeutic and diagnostic agents. The composition can be used to diagnose susceptibility of a patient to becament with the non-protein antigenic determinant or to predict subjects at risk from developing chronic infections. PADRE peptides have broader specificity and higher chronic infections. PaDRE peptides in They are powerful inhibitors of the proliferative response of human T cells restricted by at least 6 different DR molecules, and act as helper epitopes of in vivo induction or construction.
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                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Composition for eliciting immune response to non-protein determinant - comprises the determinant and a pan-DR binding peptide, used for prevention and treatment of tumours and infections
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            This PADRE (pan-DR binding) peptide is used in a composition for
                                                                                                   :
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                                                                                                                                                                                                                                                                                                                                                              PADRE; pan-DR binding; immune response; antigenic determinant; treatment; tumour; infection.
                                                              Query Match
94.6%; Score 53; DB 18; Length 13;
Best Local Similarity 100.0%; Pred. No. 0.0058;
Matches 12; Conservative 0; Mismatches 0; Indels
of cytotoxic T cells and antibody production.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /note= "D-form residue"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /note= "D-form residue"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sette A;
                                                                                                                                                                                                                                      AAW22121 standard; peptide; 13 AA.
                                                                                                                                                                                                                                                                                                                               Padre (pan-DR binding) peptide 6.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        97WO-US01041.
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                                                                                                                             1 AKXVAAWTLKAA 12
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                                  13 AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        31-JUL-1997.
                                                                                                                                                                                                                                                                                                                                                                                                                 Synthetic
                                  Sequence
                                                                                                                                                                                                                                                                     AAW22121;
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The present invention is concerned with methods of treating asthma, eosinophilia, allergic rhinitis and other allergic diseases. These involve the use of interleukin-5 [IL-5] analogues and modified IL-5 brotesins and their coding sequences to down-regulate IL-5 activity and thus reduce eosinophil numbers. The allergic diseases may be treated using autovaccines, nucleic acid vaccines or live vaccines. In addition, it is possible that they may be used in the treatment of cancer and helminthic infections.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Chimeric, II protein; pan DR epitope; expression vector; promoter; major histocomparibility complex; MRC; targetting; peptide; epitope; antigen; presentation; class I; cytosolic pathway; endoplasmic reticulum; class II; extracellular antigen; endocytic pathway; helper I lymphocyte; HTL; universal epitope; cytoctoxic T lymphocyte; HTL; universal epitope; cytoctoxic T lymphocyte; HTL; universal epitope; vaccine; immunity; infection; pathogen; virus; HTV; HBV; HCV; hepatitis B; hepatitis C; bacterium; protozoan; tumour cell; autoimmune disease; activation; antiviral; antimalarial;
                                                                                                                                                                                                                                                                                   Down-regulating interleukin 5 (IL-5) activity in humans by administering IL-5 and/or an IL-5 analogue, useful in the treatment, prophylaxis or amelioration of asthma or other chronic allergic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 53; DB 21; Length 13;
Pred. No. 0.0058;
0; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Universal helper T epitope, pan DR epitope (PADRE).
cancer; eosinophilia; vaccine; allergic rhinitis.
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                                                                                                                                                    99DK-0000552.
99US-0132811.
                                                                                                                        19-APR-2000; 2000WO-DK00205
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Best Local Similarity
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                                                             WO200065058-A1
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                                                                                                                                                       23-APR-1999;
                                                                                                                                                                     06-MAY-1999;
                                                                                                                                                                                                                                                                                                                                      conditions -
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                                                                                           02-NOV-2000
                                                                                                                                                                                                                               Klysner S;
                                 Synthetic.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Asthma; IL-5; interleukin-5; allergy; cytokine; helminthic infection;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           The present sequence, a pan DR binding peptide, is capable of binding antigen binding sites on MHC molecules, which are encoded by most of the alleles of a DR locus. The peptide can be used to inhibit or induce MHC Class II mediated activation of T-cells or helper T-cells, which themselves mediated activation of T-cells or peptide can be used in mammals, especially humans, to inhibit T-cell-mediated events involved in allograft rejection, allors an immune response and autoimmunity and as a vaccine adjuvant for enhancing an immune response against an administered immunogen. The peptide can be used with other immunogens to treat, e.g. prostate cancer, hepatitis B, hepatitis C, ALDS, renal and cervical carcinoma, lymphoma, CMV and condylyloma acuminatum.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Peptides that bind to MHC molecules of all DR alleles - inhibiting or inducing MHC Class II mediated activation of T cells
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                                                                                                                                          Pan DR binding peptide; antigen binding site; MHC molecule;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Claim 35; Columns 41-42; 29pp; English
                                                                                                                                                                                                                   Location/Qualifiers
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                                                                                                                                                                                                                                                                                                                                                                                                                                               Grey HM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAB36289 standard; Peptide; 13 AA
                     AAW50126 standard; peptide; 13
                                                                                                                                                                                                                                                 /label= Tyr,
                                                                                                                                                                                                                                                                                                                                      94US-0305871.
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                                                                                                              Pan DR binding peptide (23)
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                                                                                 (first entry)
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Best Local Similarity 100.
Matches 12; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaeta F,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 AKXVAAWTLKAA 12
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 13 AA;
                                                                                                                                                                                                                     Key
Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                               Alexander JL,
                                                                                                                                                                                                                                                                                                                                        14-SEP-1994;
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14-SEP-1993;
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                                                                                 30-JUN-1998
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                                                                                                                                                                                         Synthetic.
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The invention relates to a method of determining the surface density of cell-surface molecule on a primary or artificial antigen-presenting cell-surface molecule on a primary or artificial antigen-presenting cell surface area as cell surface area as of the APCs, and calculating the call surface area as a measure of the APCs, and calculating the ratio of the amount of the cull surface molecule to the APCs and calculating the ratio of the amount of the cell surface molecule to the APCs under as a measure of cell surface molecule to the APCs under as a measure of cell surface molecule to the APCs under a sea measure of cell surface molecule to the APCs under a complex of peptide and MHC (major histocompatibility complex) protein/peptide complex on an APC; identifying an agent that increase persistence of the MHC/peptide complex on an APC surface by culturing APCs in presence of test compound and determining the time of persistence relative to an untreated control; and determining the time of persistence relative to an untreated control; and determining the time of persistence relative to an untreated control; complex is 100 molecules/square micrometre or more. The MHC/peptide complex is 100 molecules/square micrometre or more. The complex present on the surface of an APC is suffaced to the reapeutic complex is complex or complex or control or the reapeutic complex is complex or viral or parasitic cultification of the cells as cellular vaccines or for ex vivo expansion of inference or infections. The method can also be used to identify agents that increase the control of APC optimisation of conditions for their generation of the cells) by treatment before and/or during the production, and control of APC quality. Sequences AAB736418 and control of APC repains and for the generation or the peptide specific or production, and control of APC quality. Sequences AAB736418 and control or the production of the repain of the cells of 
                                                                                                                                                                                                                                                                                                                                                                                                         Determining surface density of molecules on antigen-presenting cells, useful for quality control of cellular vaccines for treatment of tumors and infections comprises measuring density ratios -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Human leukocyte antigen A2 binding peptide; HLA class I A2; CTL; ycytocoxic T-cell lymphocyte; tumour associated antigen; CEA; HER2/neu; MAGE2; MAGE3; p53; vaccine; cancer; cytostatic; immunomodulator; immunotherapy; immune response.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         94.6%; Score 53; DB 22; Length 13; 91.7%; Pred. No. 0.0058;
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                                                                                                                                                                                                                                                      Schultze JL, Vonderheide RH, Nadler LM,
Von Bergwelt-Baildon M;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0; Mismatches
                                                                                                                                                                                              (DAND ) DANA FARBER CANCER INST INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Disclosure; Page 21; 47pp; English.
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                                                                            15-NOV-2000; 2000WO-US42213.
                                                                                                                                        99US-0165428.
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                                                                                                                                     15-NOV-1999;
                25-MAY-2001
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Matches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           This sequence represents a universal helper T epitope, pan DR epitope (PADRE), DNA encoding which is used to construct fusion genes used in exemplifications of the present invention. The invention used inventions call acts to a novel expression vector comprising a promoter operably relates to a novel expression vector comprising a promoter operably (MHC) targetting sequence, and two or more heterologous peptide epitopes. The MHC class I epitope to a cytosolic pathway or to the directs an MHC class I epitope to a cytosolic pathway or to the choppanant reticulum, or an MHC class II targetting sequence, which class is entired an entire an endocules of the class of the conformation of the class of the class of the conformation of the class of the combined with other MHC class II epitopes are advantageously combined with other MHC class II and class II epitopes are advantageously combined with other MHC class II and class II epitopes are advantageously combined with other MHC class II and class II epitopes are advantageously combined with other MHC class II and class II epitopes are advantageously combined with other MHC class II and class II epitopes are advantageously combined with other MHC class II and class II epitopes are advantageously combined by combined the combined with other MHC class II and class II epitopes of increase the combined with other MHC class II and cla
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                                                                                                                                                                                                        Hermanson GG, Sette A, Ishioka GY, Livingston B;
                                                                                                                                                                                                                                                                                                                                                                                            Expression vectors encoding major histocompatibility targeting
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  94.6%; Score 53; DB 21; Length 13; larity 91.7%; Pred. No. 0.0058; Conservative 0; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                             sequence, used as, e.g. tumor vaccines
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAB73644 standard, peptide, 13 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Claim 9; Page 80; 130pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Pan-DR binding peptide, PADRE.
   99WO-US10646.
                                                            98US-0078904.
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                                                                                                                                               (EPIM-) EPIMMUNE INC.
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                                                                                                                                                                                                                                                                                                                                N-PSDB; AAZ38679
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13-MAY-1999;
                                                            13-MAY-1998;
                                                                                          15-MAY-1998;
                                                                                                                                                                                                                                         Chesnut RW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              11;
                                                                                                                                                                                                              Fikes JD,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAB73644;
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Matches

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Gaps .; 0

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The present invention describes a composition (I) comprising at least one peptide that comprises an isolated, prepared epitope consisting of a sequence selected from 25 short amino acid sequences given in ABB99680 to ABB99704. Also described are: (I) a composition (II) comprising one or more peptides, and further comprising at least two epitopes selected from the 25 short amino acid sequences (as above), where each of the one or more peptides comprise less than 50 contiguous amino acids that have composition (III) comprising an epitope selected from the 25 short amino acid sequence; and (2) a vaccine or more peptides comprising an epitope selected from the 25 short amino acid sequences (as above) and a pharmaceutical excipient. (I) has acid sequences (as above) and a pharmaceutical excipient. (I) has cytostatic and immunorherapy. The peptide epitope compositions (I)-(II) are uncontoring an immune response to a tumour associated are uncorted antiquent the vaccine mediates the cellular arm of the immune system. In contribute the vaccine mediates immune responses against tumours in contributor, the vaccine mediates immune responses against tumours in contributor, the vaccine mediates immune responses against tumours in contributor, are standard of care for patients being treated for breast, colon, or lung cancer. The present sequence represents a contributor, the present invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Compositions for use in a vaccine for treating, e.g., breast, lung and colon cancer comprises at least one peptide that comprises an isolated
             Human leukocyte antigen A2 binding peptide; HLA class I A2; CTL; yettoxic --cell lymphocyte; tumour associated antigen; CEA; HFR2/neu; MAGE2; MAGE3; p53; vaccine; cancer; cytostatic; immunomodulator; immunotherapy; Immune response.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sette A, Sidney J, Southwood S, Celis E, Keogh
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 53; DB 22; Length 13;
Pred. No. 0.0058;
0; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          epitope of a tumor-associated antigen
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05-APR-2000; 2000US-0543608.
30-MAY-2000; 2000US-0583200.
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Matches 11; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                          (EPIM-) EPIMMUNE INC.
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                                                                                                                                             Homo sapiens
                                                                                                                                                                                                                                                             14-JUN-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Chesnut R;
                                                                                                                                                                     Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAB99711;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Fikes J,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 12
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5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          The present invention describes a composition (I) comprising at least one peptide that comprises an isolated, prepared epitope consisting of a sequence selected from 25 short amino acid sequences given in AAB99680 to AAB99704. Also described are: (I) a composition (II) comprising one comprises, and further comprising at least two epitopes selected from the 25 short amino acid sequences (as above), where each of the one or more peptides comprise less than 50 contiguous amino acids that have composition (III) comprising an epitope selected from the 25 short amino acid sequences (as above) and a pharmaceutical excipient. (I) has acid sequences (as above) and a pharmaceutical excipient. (I) has acid sequences (as above) and a pharmaceutical excipient. (I) has acid sequences (as above) and immunochherapy. The peptide epitope compositions (I)-(II) and useful for monitoring an immune response to a tumour associated antigen or when one or more peptides are combined to create a vaccine (III) that stimulates the cellular arm of the immune system. In particular, the vaccine mediates are combined to create a vaccine individuals who bear an allele of the human leukcoyte antigen (HLM)-A2 supertype and improve the standard of care for patients being treated in an example from the present invention. The present sequence represents a from the present invention.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Compositions for use in a vaccine for treating, e.g., breast, lung and colon cancer comprises at least one peptide that comprises an isolated epitope of a tumor-associated antigen -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Keogh E;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     94.6%; Score 53; DB 22; Length 13
100.0%; Pred. No. 0.0058;
iive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Southwood S, Celis E,
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                                                                                                                                                  /note= "cyclohexylalanine"
                                                                                                  Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAB99710 standard; peptide; 13 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Example 7; Page 47; 86pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sette A, Sidney J,
                                                                                                                                                                                                                                                                                                                                             13-DEC-1999; 99US-0170448.
05-APR-2000; 2000US-0543608.
30-MAY-2000; 2000US-0583200.
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Best Local Similarity 100.
Matches 12; Conservative
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                                                                                                                                                                                                     WO200141741-A1
                                                                                                                             Modified-site
                               Homo sapiens.
Synthetic.
                                                                                                                                                                                                                                                     14-JUN-2001
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Chesnut R;
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Synthetic

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The present invention describes MAGE2/3 epitopes (I). Also described are: (I) a clonal cytotoxic T lymphocyte (CTL) that is cultured in vivo and binds to a complex of (I), (2) a peptide (II) comprising (I) and a second epitope and has less than 50 contiguous amino acids; (3) a vaccine composition comprising (II), a unit dose of a peptide with a least 50 contiguous amino acids with 100% identity to the native peptide sequence of MAGE2/3, and a pharmaceutical excipient; (4) an isolated nucleic acid encoding (I); and (5) an isolated nucleic acid encoding (I). (I) has crooting (I); and (5) an isolated nucleic acid encoding (I). (I) has cytostatic activity, and can be used in vaccines and as an immunostimulant. A vaccine of (3) is useful for the treatment and prevention of cancer. (I) is useful for monitoring or evaluating and immunostimulant and actecting the presence of the T-lymphocyte that binds to the presence of the T-lymphocyte that binds to the pettide. The vaccine allows the opportunity to combine epitopes derived complete in the complete of the total acid sequences used in the exemplification of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  An isolated prepared MAGE2/3 epitope (1) for use in pharmaceuticals for the treatment and prevention of cancer -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Human, HER2/neu; epitope; human leukocyte antigen; HLA; T cell; immune response; vaccine; tumour; cancer; cytostatic; immunostimulant; tumour-associated antigen; T lymphocyte; cytotoxic T lymphocyte; CTL.
                                                                                     Human; human leukocyte antigen; HLA epitope; cytotoxic T lymphocyte;
CTL; MAGE2; MAGE3; melanoma antigen gene; immune response; vaccine;
cancer; cytostatic; immunostimulant.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      94.6%; Score 53; DB 22; Length 13;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Southwood S, Chesnut R,
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. 0.0058;
0;
                                   Pan-DR-binding epitope (PADRE) generic peptide.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               100.0%; Pred. No. 0.0
ive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Disclosure, Page 37; 171pp; English.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sette A, Sidney J,
                                                                                                                                                                                                                                                                                                                                        11-DEC-2000; 2000WO-US33545.
                                                                                                                                                                                                                                                                                                                                                                                          99US-0458298.
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                                                                                                                                                                                                                                                                                                                                                                                                                                         (EPIM-) EPIMMUNE INC.
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                                                                                                                                                                                                                                        WO200142267-A1.
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                                                                                                                                                                                         Synthetic.
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Keogh E;
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Matches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ô
                                                 Human leukocyte antigen A2 binding peptide; HLA class I A2; CTL; ycytotoxic T-cell lymphocyte; tumour associated antigen; CEA; HER2/neu; MAGE2; MAGE3; p53; vaccine; cancer; cytostatic; immunomodulator; immunotherapy; immune response.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Compositions for use in a vaccine for treating, e.g., breast, lung and colon cancer comprises at least one peptide that comprises an isolated epitope of a tumor-associated antigen -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
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Pred. No. 0.0058;
0; Mismatches 1; Indels
Pan-DR-binding peptide (PADRE) SEQ ID NO:32.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Example 7; Page 48; 86pp; English.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sette A, Sidney J,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           94.6%;
                                                                                                                                                                                                                                                                                                                                                                                                        99US-0170448.
                                                                                                                                                                                                                                                                                                                                                                                                                        05-APR-2000; 2000US-0543608.
30-MAY-2000; 2000US-0583200.
                                                                                                                                                                                                                                                                                                                                                   13-DEC-2000; 2000WO-US34318,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          from the present invention.
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Matches 11, Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (EPIM-) EPIMMUNE INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 AKXVAAWTLKAA 12
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                                                                                                                                                                                                                                                   WO200141741-A1.
                                                                                                                                                                                                                                                                                                                                                                                                  13-DEC-1999;
                                                                                                                                                                                sapiens
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Chesnut R;

Fikes J,

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Gaps

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Indels

AAG84519;

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RESULT 13 AAG84519

Query Match

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Search completed: January 29, 2003, 10:44:34
Job time: 27.9455 secs
cardiant; PADRE; pan DE epitope
                                                   Synthetic.
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Also described are: (1) a clonal cytotoxic T lymphocyte (CTL) that is
culture in vitro and binds to a complex of an epitope (I), bound to a
culture in vitro and binds to a complex of an epitope (I), bound to a
and a second epitope and the peptide is less than 50 contiguous amino
confuse thave 100% identity with a native peptide sequence of HER2/neu;
(C) a vaccine composition (III) comprising (II) and a pharmaceutical
confuse (I) an isolated mucleic acid encoding a peptide comprising
(I) and of an isolated mucleic acid encoding a peptide comprising
(I) and (III) are useful for inducing cellular immune responses for the
confuse (II) are useful for inducing cellular immune responses for the
confuse in and trearment of cancer. (I) and (II) are useful for
confuse when incubated with a T lymphocyte sample form a patient and
celecting the presence of bound T lymphocyte sample form a patient and
celecting the presence of bound T lymphocyte sample form a patient and
celecting the presence of bound T lymphocyte sample form a patient and
confuse when incubated with a T lymphocyte sample form a patient and
celecting the presence of bound T lymphocyte sample form a patient and
confuse whole antigens may be avoided. Selected epitopes that may be present
confused the ability to direct and focus an immune response to multiple
confuse provides the opportunity to combine epitopes derived from
confused the ability and reducing the likelihood of tumour escape due to
cut tumour variability and reducing the likelihood of tumour escape due to
confuse mean likelihood of tumour escape d
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                      An isolated prepared HER2/neu epitope useful in a vaccine for inducing cellular immune responses for the prevention and treatment of cancer -
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T-cell epitope; down-regulation; vaccine; muscle; meat; Cachexia;
                                                                                                                                                                                                                                                                                                                                           Celis E;
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                                                                                                                                                                                                                                                                                                                                              Southwood S,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Disclosure; Page 37; 199pp; English.
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                                                                                                                                                                                                                                                                                                                                                 Sette A, Sidney J,
                                                                                                                                                                                       11-DEC-2000; 2000WO-US33591.
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Matches 12; Conserv
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                                                                                                                                                                                                                                             10-DEC-1999;
                                                                                                                                         14-JUN-2001.
                                     Synthetic.
                                                                                                                                                                                                                                                                                                                                              Fikes J,
Keogh E;
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The present sequence is that of a PADRE (pan DE epitope) peptide which acts as a T-cell epitope and is capable of binding a large to which acts as a T-cell epitope and is capable of binding a large trian proportion of major histocompatibility complex class II molecules. It is an object of the invention to produce a recombinant therapeutic vaccine that is capable of effecting down-regulation of growth differentiation factor 8 (GPF 88) in order to increase the muscle growth rate of farm animals. The vaccines (see AAB20145-53) are capable of breaking autotolerance against autologous GDF-8. They comprise the C-terminal portion of human GDF-8 in which a portion of the native sequence is replaced by a T-cell epitope such as PADRE, with minimal disturbance of the authentic 3-dimensional concerns muscle mass by up to at least 45% in cattle, pigs and increase muscle meas production, reducing the need for antibiotic politives. Anti-GDF8 vaccines can be used to treat humanned.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Increasing the muscle mass of animals used in meat production by down regulating growth differentiation factor 8 (GDF-8) activity in the animal through induction of anti-GDF-8 antibody production
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                                                                                                                                                                                                                                                                                                                                                                                                                     Halkier T, Mouritsen S, Klysner S;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Disclosure, Page 15; 110pp; English.
                                                                                                                                                                                                                                 99DK-0001014.
99US-0145275.
                                                                                                                                                  20-JUL-2000; 2000WO-DK00413
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WO200105820-A2
                                                                                                                                                                                                                                 20-JUL-1999;
26-JUL-1999;
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58, Appli 2, Appli 2, Appli 4, Appli 4, Appli 4, Appli 4, Appli 13, Appli 4, Appli

Sequence 4 Sequence (Sequence 1

Sequence

Sequence Sequence

Sequence Sequence Sequence Sequence

Sequence Sequence

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APPLICANT: Sette, Alessandro
APPLICANT: Gaeta, Federico
APPLICANT: Grey, Howard M.
APPLICANT: Grey, John
APPLICANT: Alexander, Jeffrey L.
TITLE OF INVENTION: Aleration of Immune Response Using Pan
TITLE OF INVENTION: DR-Binding Peptides
NUMBER OF SECURNCES: 29
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COMPUTER READABLE FORM:

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk
COMPUTER: Patent In Release #1.0, Version #1.30
OPERATION SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patent In Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/305,971A
FILING DATE: 14-SEP-1994
CLASSIFICATION WUMBER: US 08/121,101
FILING DATE: 14-SEP-1993
ATTORNEY/AGROT INCORMATION:
NAME: Bastian, Kevin L.
REGISTRATION NUMBER: 14137-0062-10
TELEPRAMIC NUMBER: 14137-0062-10
TELERRAX: (415) 576-0200
TELERRX: (415) 576-0300
INFORMATION FOR SEQ ID NO: 17:
LENGRATION FOR SEQ ID NO: 17:
LENGRATION POR SEQ ID NO: 17:
LENGRATION CATABREETICS:
LENGRIFH: 4 amino acids
US-09-134-001C-2948
US-09-134-001C-3512
US-09-134-001C-3512
US-09-134-001C-344
US-09-247-373B-54
US-09-071-035-376
US-09-071-035-374
US-09-071-035-374
US-09-071-035-378
US-09-228-176-2
US-09-228-176-2
US-09-238-176-2
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US-08-441-500-4
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB 1;
2e+05;
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Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                  ; Sequence 17, Application US/08305871A; Patent No. 5736142; GENERAL INFORMATION:
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   MOLECULE TYPE: peptide
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 Sequence 17, Appl
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                                                                                                           January 29, 2003, 10:42:37; Search time 10.9091 Seconds (without alignments) 40.457 Million cell updates/sec
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... /cgnZ_6/ptodata/l/iaa/5A_COMB.pep:*
... /cgnZ_6/ptodata/l/iaa/5B_COMB.pep:*
... /cgnZ_6/ptodata/l/iaa/6A_COMB.pep:*
... /cgnZ_6/ptodata/l/iaa/6A_COMB.pep:*
... /cgnZ_6/ptodata/l/iaa/PcTUS_COMB.pep:*
... /cgnZ_6/ptodata/l/iaa/PcTUS_COMB.pep:*
... /cgnZ_6/ptodata/l/iaa/PacKfIlesl.pep:*
             GenCore version 5.1.3
Copyright (c) 1993 - 2003 Compugen Ltd.
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US-08-788-822A-21

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US-08-788-822A-26

US-08-788-822A-27

US-08-788-822A-37

US-08-788-822A-37

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US-08-788-822A-37

US-08-788-822A-17

US-08-25-7A-17

US-09-075-257A-16

US-09-075-257A-16

US-09-534-639-16

US-08-534-639-16

US-08-534-639-16

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Maximum Match 100%
Listing first 45 summaries
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Maximum DB seq length: 200000000
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Match Length
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                                                                                                                                                                                 Title:
Perfect score:
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                                                                              OM protein
                                                                                                                                                                                                                    Sequence:
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                                                                                                                Run on:
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69.4%; Score 25; DB 4; Length 12;
Best Local Similarity 100.0%; Pred. No. 31;
Matches 4; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LOCATION: 3
OTHER INFORMATION: /product= "OTHER"
OTHER INFORMATION: /note= "Xaa = cyclohexylalanine"
                                                                                                                         COUNTRY:

ZIP: 94111-3834

COMPUTER: READABLE FORM:

MEDIUM TYPE: Floppy disk
COMPUTER: BM PC Compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30

CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/788,822A
FLING DATE: 23-AN-1997
CLASSIFICATION DATA:
PRIOR PEPLICATION NUMBER: US 60/010,510
FILING DATE: 43-AN-1996
ATTORNEY/AGENT INFORMATION:
NAME: Bastian, Kevin L.
REGISTRATION NUMBER: 34,774
REFERENCE/DOCKET NUMBER: 014137-009210US
TELECOMUNICATION INFORMATION:
TELECOMUNIC
          ADDRESSEE: Townsend and Townsend and Crew LLP STREET: Two Embarcadero Center, Eighth Floor CITY: San Francisco STATE: California
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LOCATION: 12
OTHER INFORMATION: /product= "OTHER"
OTHER INFORMATION: /note= "Xaa = alaninamide"
US-08-788-822A-21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NAME/KEY: Modified-site LOCATION: 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NAME/KEY: Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TOPOLOGY: linear
MOLECULE TYPE: peptide
CORRESPONDENCE ADDRESS:
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US-08-305-871A-22
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US-08-788-822A-21
US-08-788-822A-21
Sequence 21, Application US/08788822A
Patent No. 641335S
GENERALINFORMATION:
APPLICANT: Alexander, Jeffrey L.
APPLICANT: DeFrees, Shawn
APPLICANT: Sette, Alessandro
TITLE OF INVENTION: Induction of Immune Response Against
TITLE OF INVENTION: Desired Determinants
NUMBER OF, SEQUENCES: 30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     69.4%; Score 25; DB 4; Length 4;
100.0%; Pred. No. 2e+05;
ive 0; Mismatches 0; Indels
     Indels
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SOFTWARE: Patent in Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/788,82A
FILING DATE: 23-0AN-1997
CLASSIFICATION DATA:
APPLICATION DATA:
APPLICATION NUMBER: US 60/010,510
FILING DATE: 24-0AN-1996
ATTORNEY/ACENT INFORMATION:
NAME: Bastian, Kevin L.
REGISTRATION NUMBER: 014137-009210US
TELECOMMUNICATION INFORMATION:
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     Mismatches
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INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 4 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local Similarity 100...
        4; Conservative
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MOLECULE TYPE: peptide
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         7 WTLK 10
                                                     7 WTLK 10
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US-08-788-822A-1
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US-088-788-822A-26
US-088-788-822A-26
Sequence 26, Application US/08788822A
Patent No. 6413935
GENERAL INFORMATION:
APPLICANT: Alexander, Jeffrey L.
APPLICANT: Sette, Alessandro
TITLE OF INVENTION: Induction of Immune Response Against
TITLE OF INVENTION: Desired Determinants
NUMBER OF SEQUENCES: 30
CORRESPONDENCE ADDRESS:
ADDRESSE: Townsend and Townsend and Crew LLP
STREET: Two Embarcadero Center, Eighth Floor
CITY: San Francisco
STATE: California
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  th 69.4%; Score 25; DB 1; Length 13; Similarity 100.0%; Pred. No. 33; Orservative 0; Mismarches 0; Indels
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MEDIUM TYPE: Floppy disk
COMPUTER PRADABLE PORM:
MEDIUM TYPE: Floppy disk
COMPUTER: Ploppy disk
COMPUTER: Ploppy disk
COMPUTER: Ploppy disk
COMPUTER: PatentIn Release #1.0, Version #1.30
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENTING SYSTEM: PC-DOSS/MS-DOS
SOFTWARE: 23-JAN-1997
FILING DATE: 23-JAN-1997
CLASSIFICATION NUMBER: US 60/10,510
FILING DATE: 24-JAN-1996
ATTORNEY/AGRAT INCORNATION:
NAME: Bastian, Kevin L.
REGISTRATION NUMBER: 34,774
REPERBUCE/DOCKET NUMBER: 34,774
REPERBUCE/DOCKET NUMBER: 014137-009210US
TELEPAX: (415) 576-0200
TELEPAX: (415) 576-0200
TELEPAX: (415) 576-0300
TELEPAX: (415) 576-0300
TELEPAX: (415) 576-0300
TELEPAX: (415) 576-0300
                                                                                                                                                                                                                                                                                                                                                                                             FEATURE:
NAME/KEY: Modified-site
COATION: 1..13
OTHER INFORMATION: /note= "Peptide wherein X is
OTHER INFORMATION: tyrosine or phenylalanine."
                                                                                 NAME: Bastian, Kevin L.
REGIGSTANTON NUMBER: 34,774
REFERENCE/DOCKET NUMBER: 14137-0062-10
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 576-0200
TELEPAX: (415) 576-0300
INFORMATION FOR SEQ ID NO: 23: SEQUENCE CHARACTERISTICS:
LENGTH: 13 amino acids
TYPE: amino acids
STRANDENESS:
                  US 08/121,101
                                    FILING DATE: 14-SEP-1993
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LENGTH: 13 amino acids TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                        MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ouery Match
Best Local Similarity
Matches 4; Conserva
                                                                                                                                                                                                                                                                                                                                                     linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-08-305-871A-23
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COMPUTER: B0411-3834

COMPUTER: EADABLE PORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC Compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
SOFTWARE: Patentin DATA:
SOFTWARE: PATENTION DATA:
APPLICATION NUMBER: US/08/305,871A
FILING DATE: 14-SEP-1994
FILING DATE: 14-SEP-1994
ATTORNAPER: ASEP-1993
ATTORNAPER: ASEP-1993
ATTORNAPER: ASEP-1993
ATTORNAPER: ASEP-1993
ATTORNAPER: ASEP-1993
ATTORNAPER: ASEP-100
FELECOMMUNICATION INFORMATION:
TELEPAX: (415) 576-0200
TELEPAX: (415) 576-0300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NAME/KEY: Modified-site
LOCATION: 1..13
OTHER INFORMATION: /note= "Peptide wherein X is oTHER INFORMATION: tyrosine or phenylalanine."
US-08-305-871A-22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SOFTWARE: Patentin Release #1.0, Version #1.30 CURRENT APPLICATION DATA:
PAPLICATION NUMBER: U5/08/305,871A FILING DATE: 14-SEP-1994
CLASSIPICATION NA7A:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TOPOLOGY: linear
MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STRANDEDNESS
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7 WTLK 10
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0
RESULT 8

US-08-822A-30

US-08-822A-30

Sequence 30, Application US/08788822A

Patent No. 4413935

GENERAL INFORMATION:

APPLICANT: Alexander, Jeffrey L.

APPLICANT: Sette, Alessandr of Immune Response Against

TITLE OF INVENTION: Induction of Immune Response Against

TITLE OF INVENTION: Laduction of Immune Response Against

TITLE OF INVENTION OF INVENTION OF INVENTION OF INVENTION OF INVENTION OF INVENTION OF INVENTIO
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; OTHER INFORMATION: /product= "OTHER"
; OTHER INFORMATION: /note= "Xaa may be present or absent"
US-08-788-822A-30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /note= "Xaa = cyclohexylalanine, Tyr,
Phe or conservative substitutions
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           69.4%; Score 25; DB 4; Length 14;
llarity 100.0%; Pred. No. 35;
Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COUNTRY:

ZIP: 94111-3834

COMPUTER: READABLE FORM:

MEDIUM TYPE: PLOPBY disk
COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DS/MS-DOS
SOFTWARE: PATENTION RAPE

APPLICATION NUMBER: US/08/788,822A
FILING DATE: 23-JAN-1997
CLASSIPTCATION DATA:
APPLICATION NUMBER: US 60/10,510
FILING DATE: 24-JAN-1996
ATTORNEY/AGENT INFORMATION:
PRICATEATION NUMBER: US 60/10,510
FILING DATE: 34-JAN-1996
ATTORNEY/AGENT INFORMATION:
NAME: BESTAIAN, KOVID.
REGISTRATION NUMBER: 014137-009210US
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELEFAX: (415) 576-0300
INFORMATION FOR SEQ ID NO: 30:
SEQUENCE CHARACTERISTICS:
LENGTH: 14 amino acids
STRANDENNESS:
TYPE: amino acid
STRANDENNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /product= "OTHER"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     therefor"
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OTHER INFORMATION: /note=
OTHER INFORMATION: Phe or
OTHER INFORMATION: therefor
FEATURE: NAME/KEY: Modified-site
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TOPOLOGY: linear
MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity
'has 4; Conserve
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US-08-652-369A-1
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US-08-178-822A-27

Sequence 27, Application US/0878822A

Parent No. 6413935

Parent No. 6413918

APPLICANT: Alexander, Jeffrey L. APPLICANT: Sette, Alexandr

APPLICANT: Sette, Alexandr

TITLE OF INVENTION: Induction of Immune Response Against

TITLE OF INVENTION: Desired Determinants

NUMBER OF SEQUENCES: 30

CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match 69.4%; Score 25; DB 4; Length 13; Best Local Similarity 100.0%; Pred. No. 33; Matches 4; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
69.4%; Score 25; DB 4; Length 13;
Best Local Similarity 100.0%; Pred. No. 33;
Matches 4; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                             | NAME/KEY: Modified-site
| LOCATION: 3
| OTHER INFORMATION: /product= "OTHER"
| OTHER INFORMATION: /note= "Xaa = cyclohexylalanine"
| US-08-788-822A-26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CORPUTER READABLE PORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
COPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/788,822A
FILING DATE: 23-JAN-1997
CLASSIFICATION: 424
PRIOR APPLICATION NATA:
APPLICATION NUMBER: US 60/010,510
FILING DATE: 24-JAN-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ADDRESSEE: Townsend and Townsend and Crew LLP STREET: Two Embarcadero Center, Eighth Floor CITY: San Francisco STATE: California COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NAME: Bastian, Kevin L.
REGISTRATION NUMBER: 34,774
REFERENCE/DOCKET NUMBER: 014137-009210US
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 576-0200
TELEPAX: (415) 576-0300
INFORMATION FOR SEQ ID NO: 27:
SEQUENCE CHARACTERISTICS:
LENGTH: 13 amino acids
TYPE: amino acid
STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TOPOLOGY: linear
MOLECULE TYPE: peptide
US-08-788-822A-27
                                                                                                                                  TOPOLOGY: linear
MOLECULE TYPE: peptide
                                                                                                     STRANDEDNESS:
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Fatent No. 6074645

GENERAL INFORMATION:
APPLICANT: DIAMOND, DON JEFFREY
APPLICANT: YORK, JOANNE
TITLE OF INVENTION: OF HUMAN CYTOMEGALOVIRUS
ITLE OF INVENTION: OF HUMAN CYTOMEGALOVIRUS
NUMBER OF SEQUENCES: 20
CORRESPONDENCE ADDRESS:
ADDRESSEE: BART G. NEMLAND
STREET: S55 13744 STREET, NW SUITE 701E
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match 69.4%; Score 25; DB 4; Length 23; Best Local Similarity 100.0%; Pred. No. 56; Matches 4; Conservative 0; Mismatches 0; Indels
                                                                                                                ZIP: 20036
COMPUTER READABLE FORM:
MEDIUM TYPE: Disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: DATE: D19911015
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/741,453A
FILNG DATE: 19911015
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
REGISTRATION NUMBER: 91913/1107/US/ST
REFERENCE/DOCKET NUMBER: 91913/1107/US/ST
TELEPHONE: (202) 861-3000
TELEPAX: (202) 861-3000
TELEFEX: 6714627 CUSH
INFORMATION FOR SEQ ID NO: 25:
SEQUENCE CHARACTERISTICS:
LENGHAL: 23 amino acids
TTYPE: AMINO ACID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CALF: AUDUA
COMPUTER: READABLE FORM:
MEDTUM TYPE: Floppy disk
COMPUTER: TBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PATENTIN Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/075,257A
FILING DATE: 11-MAY-1998
CLASSIFICATION DATA:
PRIOR APPLICATION DATA:
PRIOR APPLICATION NUMBER: US 09/021,298
FILING DATE: 10-FEB-1998
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/950,064
FILING DATE: 11-OFTEB-1998
PRIOR APPLICATION DATA:
PRIOR DATE: 11-OFTEB-1997
PRIOR APPLICATION DATA:
              ADDRESSEE: CUSHMAN DARBY & CUSHMAN STREET: 1615 L STREET: N.W. CITY: WASHINGTON, D.C. COUNTRY: U.S.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STRANDEDNESS: Single
TOPOLOGY: linear
MOLECULE TYPE: peptide
US-07-741-453A-25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           USA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CITY: V
STATE:
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10 0-741-453A-25

10 Sequence 25, Application US/07741453A

11 Patent No. 622897

12 GENERAL INFORMATION:

13 APPLICANT: PARKENTIER, MARC

14 APPLICANT: LIBERT, TREDERIC

15 APPLICANT: USBRIT, GILBERT

17 TILE OF INVENTION: POLYPEPTIDES HAVING THYROTROPIN-RECEPTOR

17 TILE OF INVENTION: AND POLYPEPTIDES, AND APPLICATIONS OF THESE POLYPEPTIDES

17 TILE OF INVENTION: AND POLYPEPTIDES, AND APPLICATIONS OF THESE POLYPEPTIDES

18 OUNDER OF SEQUENCES: 62

19 CORRESPONDENCE ADDRESS:
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APPLICANT: Dean G. Tang, Kenneth V. Honn
TITLE OF INVENTION: Induction of Tumor
TITLE OF INVENTION: Cell Apptosis With Chemical Inhibitors
TITLE OF INVENTION: Targeted to 12-Lipoxygenase
NUMBER OF SEQUENCES: 6
CORRESPONDENCE ADDRESS:
ADDRESSEE: Ian C. McLeod
STREET: 2190 Commons Parkway
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match 69.4%; Score 25; DB 2; Length 18; Best Local Similarity 100.0%; Pred. No. 45; Matches 4; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CLASSIFICATION: 435
PRIOR APPLICATION BATA:
APPLACATION NUMBER:
FILING DATE:
ATTORNEY/AGENT INFORMATION:
NAME: Lan C. McLeod
REGISTRATION NUMBER: 20,931
REFERENCE/DOCKET NUMBER: Blomide 4.1-11
TELECOMMUNICATION INFORMATION:
TELEFRAX: (517) 347-4103
TELEFRAX: (517) 347-4103
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE HARACTERISTICS:
                                                                                                                                                                                                                                        DESCRIPTION: DNA primer for segment DESCRIPTION: of 12-lipoxygenase.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STRANDEDNESS: Single
TOPOLOGY: Linear
MOLECULE TYPE:
                                                                                                                                                                                 CITY: Okemos
STATE: Michigan
COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TYPE: Amino Acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    IMMEDIATE SOURCE:
LIBRARY: Genom
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            HYPOTHETICAL: No ANTI-SENSE: NO ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   7 WTLK 10
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US-09-075-257A-15
Sequence 15, Application US/09075257A
Sequence 15, Application US/09075257A
Sequence 15, Application US/09075257A
Setent No. 6074645
GENERAL INFORMATION:
TITLE OF INVENTION: DON JEFFREY
APPLICANT: DIAMOND, DON JEFFREY
TITLE OF INVENTION: IMMUNO-REACTIVE PEPTIDE CTL EPITOPES
TITLE OF INVENTION: OF HUMAN CYTOMEGALOVIRUS
NUMBER OF SEQUENCES: 20
CORRESPONDENCE ADDRESS:
ADDRESSEE: BART G. NEWLAND
STREET: SSS 13TH STREET, NW SUITE 701E
CITY: WASHINGTON
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match 69.4%; Score 25; DB 3; Length 28; Best Local Similarity 100.0%; Pred. No. 68; Matches 4; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LOCATION: 6 OTHER INFORMATION: /note= "Xaa = cyclohexylalanine OTHER INFORMATION: or phenylalanine"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CZIP: 20004
CZIP: 20004
CZNPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM FC Compatible
OPERATUG SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PATENTIN PRICATION DATA:
APPLICATION NUMBER: US/09/075,257A
FLING DATE: 11-MAY-1998
CLASSIFICATION DATA:
APPLICATION NUMBER: US 09/021,298
FLING DATE: 10-FEB-1998
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/950,064
FLING DATE: 10-FEB-1998
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/747,488
FILING DATE: 12-NOV-1997
RELIGATION NUMBER: US 08/747,488
FILING DATE: 12-NOV-1996
ATTORNEY/AGENT INPORMATION:
NAME: NUMBER: US-NOV-1996
ATTORNEY/AGENT INPORMATION:
TELECOMMUNICATION INPORMATION:
TELECOMMUNICATION INPORMATION:
TELECOMMUNICATION INPORMATION:
TELECOMMUNICATION INPORMATION:
TELERAX: 202-783-6040
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US-09-075-257A-16
; Sequence 16, Application US/09075257A
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TOPOLOGY: not relevant
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            INFORMATION FOR SEQ ID NO: 15: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MOLECULE TYPE: peptide
FRAGMENT TYPE: internal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NAME/KEY: Domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     USA
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10 WTLK 13
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NS-09-534-639-17

Sequence 17, Application US/09534639

Patent No. 6251399

GENERAL INFORMATION:

APPLICANT: Diamond, Don J

APPLICANT: Diamond, Don J

APPLICANT: Diamond, Don J

APPLICANT: Diamond, Don J

TITLE OF INVENTION: INMUNO-REACTIVE PEPTIDE CTL EPITOPES OF HUMAN

TITLE OF INVENTION: 10MUNO-REACTIVE PEPTIDE CTL EPITOPES OF HUMAN

TITLE OF INVENTION: UNMUSER: 1994-839

CURRENT FILING DATE: 1994-177

EARLIER APPLICATION NUMBER: 09/075,257

EARLIER APPLICATION NUMBER: 09/021,298

SARLIER APPLICATION NUMBER: 09/021,298

SARLIER APPLICATION NUMBER: 09/021,208

SOFTWARE OF SEQ ID NOS: 20

SOFTWARE PATENTING DATE: 1996-11-12

NUMBER OF SEQ ID NOS: 20

SEQ ID NO 17

**INDUSTRIANT***

**INDUSTRIANT**

**INDUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ·,
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US-09-534-639-17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LOCATION: (6)
OTHER INFORMATION: Xaa = cyclohexylalanine or phenylalanine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ouery Match 69.4%; Score 25; DB 4; Length 25; Best Local Similarity 100.0%; Pred. No. 61; Matches 4; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
69.4%; Score 25; DB 3; Length 25;
Best Local Similarity 100.0%; Pred. No. 61;
Matches 4; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ; IOCATION: 6
; OTHER INFORMATION: /note= "Xaa = cyclohexylalanine"
OTHER INFORMATION: or phenylalanine"
US-09-075-257A-17
   APPLICATION NUMBER: US 08/747,488
FILING DATE: 12-NOV-1996
ATTORNEY-AGENT INFORMATION:
NAME: NEMLAND, BART G
REGISTRATION NUMBER: 31,282
REFERREX-DOCKET NUMBER: 1954-112CP3
TELECOMMUNICATION INFORMATION:
TELEPHONE: 202-783-6040
                                                                                                                                                                                                                                                                                                                                                                                                                              TYPE: amino acid
STRANDENDESS: not relevant
TOPOLOGY: not relevant
MOLECULE TYPE: peptide
FRAGMENT TYPE: internal
                                                                                                                                                                                                                                                                                            TELEFAX: 202-783-6031
INFORMATION FOR SEQ ID NO: 17:
SEQUENCE CHARACTERISTICS:
LENGTH: 25 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NAME/KEY: Domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FEATURE:
NAME/KEY: VARIANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                7 WTLK 10
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7 WTLK 10

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Search completed: January 29, 2003, 10:48:22 Job time : 10.9091 secs
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Patent No. 6251399
GENERAL INFORMATION:
APPLICANT: Diamond, Don J
APPLICANT: York, Joanne
TITLE OF INVENTION: IMMUNO-REACTIVE PEPTIDE CTL EPITOPES OF HUMAN
TITLE OF INVENTION: CYTOMEGALOVIRUS
FILE REFERENCE: 1954-343
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                               GENERAL INFORMATION:
APPLICANT: DIAMOND, DON JEFFREY
APPLICANT: JOANNE
TITLE OF INVENTION: IMMUNO-REACTIVE PEPTIDE CTL EPITOPES
TITLE OF INVENTION: OF HUMAN CYTOMEGALOVIRUS
NUMBER OF SEQUENCES: 20
CORRESPONDENCE ADDRESS:
ADDRESSEE: BART G. NEWLAND
STREET: 555 13TH STREET, NW SUITE 701E
CITY: WASHINGTON
STATE: DC
COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match 69.4%; Score 25; DB 3; Length 28; Best Local Similarity 100.0%; Pred. No. 68; Matches 4; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMPUTER READABLE FORM:
MEDIUM TYPE: Ploppy disk
COMPUTER: IBM FC Compatible
OPERATION SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PACENTIN RC-BCSG #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/075,257A
FILING DATE: 11-MAY-1998
CLASSIFICATION DATA:
APPLICATION NUMBER: US 09/021,298
FILING DATE: 10-FEB-1998
PRIOR BAPLICATION NUMBER: US 08/950,064
FILING DATE: 10-FEB-1998
PRIOR APPLICATION NUMBER: US 08/950,064
FILING DATE: 11-NOV-1997
PRIOR DATE: 11-NOV-1996
APPLICATION NUMBER: US 08/747,488
FILING DATE: 11-NOV-1996
APPLICATION NUMBER: US 08/747,488
FILING DATE: INFORMATION:
APPLICATION NUMBER: US 08/747,488
FILING DATE: 12-NOV-1996
ATTORNEY/AGENT INFORMATION:
ARETERENCE/DOCKET NUMBER: 11.269
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 OTHER INFORMATION: /note= "Xaa = cyclohexylalanine"
OTHER INFORMATION: or phenylalanine"
US-09-075-257A-16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SS: not relevant not relevant
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FRAGMENT TYPE: internal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NAME/KEY: Domain
LOCATION: 6
; Patent No. 6074645
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 10 WTLK 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                7 WTLK 10
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 15
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Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                           NAME/KEY: VARIANT
LOCATION: (6)
OTHER INFORMATION: Xaa = cyclohexylalanine or phenylalanine
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match 69.4%; Score 25; DB 4; Length 28; Best Local Similarity 100.0%; Pred. No. 68; Matches 4; Conservative 0; Mismatches 0; Indels
APPLICATION NUMBER: US/09/534,639
              CURRENT FILING DATE: 2000-03-27
EARLIER APPLICATION NUMBER: 09/075,257
EARLIER APPLICATION NUMBER: 09/021,298
EARLIER APPLICATION NUMBER: 09/021,298
EARLIER FILING DATE: 1998-02-10
EARLIER PILING DATE: 1998-02-10
EARLIER PILING DATE: 1997-10-14
EARLIER PILING DATE: 1997-10-14
EARLIER FILING DATE: 1997-10-14
EARLIER FILING DATE: 1996-11-12
NUMBER OF SED ID NOS: 20
SOFTWARE: PATENTIN Ver. 2.1
SEQ ID NO 15
LENGTH: 28
                                                                                                                                                                                                                                                                                                                                                                                 ORGANISM: Artificial Sequence
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us-09-707-738-22.rpr

Page

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GenCore version 5.1.3
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OM protein - protein search, using sw model

January 29, 2003, 10:42:07; Search time 10.8727 Seconds (without alignments) 114.943 Million cell updates/sec Run on:

US-09-707-738-22 56 1 AKXVAAWTLKAAX 13 Title: Perfect score:

BLOSUM62 Gapop 10.0 , Gapext 0.5 Scoring table: Sequence:

283224 seqs, 96134422 residues Searched: 283224 Total number of hits satisfying chosen parameters:

Minimum DB seq length: 0 Maximum DB seq length: 200000000

Post-processing: Minimum Match 10% Maximum Match 100% Listing first 45 summaries

PIR 73:*
1: pir1:*
2: pir2:*
3: pir3:*
4: pir4:* Database :

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

		æ			SOUTHWINES	
Result No.	Score	Query Match	Query Match Length	DB	ID	Description
-	3.8	67.9	411	!	861245	probable virion ql
0	37	66.1	1036		B69368	hypothetical prote
m	35	62.5	204	~	A53848	ubiquitin-conjugat
4	35	62.5	942		G83038	sen
ß	35		1492		T14652	protein J - Yersin
9	35	62.5	1545		T14966	
7	35	62.5	2429		SJHUA	rin alpha
80	34	60.7	85		IHKREV	high potential iro
6	34	60.7	85		IHTFER	high potential iro
10	34	60.7	102		H87678	hypothetical prote
11	34	60.7	201		C97558	hypothetical prote
12	34	60.7	201		AG2778	conserved hypothet
13	34	60.7	297	7	E95379	probable arginase
14	34	60.7	363		B82532	GTP-binding protei
15	34	60.7	418		C84360	potassium channel
16	34	60.7	489	~	C70655	probable monooxyge
17	34	60.7	494		A86917	probable monooxyge
18	34	60.7	498		G87567	monooxygenase, fla
19	34	60.7			B83493	conserved hypothet
20	34				873612	arginine-tRNA liga
21	34	60.7			T09172	probable calcium-a
22	34	٠.			T34064	hypothetical prote
23	34	60.7			AB1744	internalin protein
24	33	æ.			869658	hypothetical prote
25	33	58.9			AI2626	transcription regu
26	33	58.9			B86320	3-phosphoserine ph
27	33	58.9	295	7	T51362	phosphoserine phos
28	33	œ.			H97408	-
29	33	58.9	339	7	AE3502	D-xylose 1-dehydro

hypothetical prote internalin protein Gem-interacting pr	hypothetical prote hypothetical prote	amyloid protein - hypothetical prote	CDPdiacylglycerol - 4-diphosphocytidyl	hypothetical prote competence protein	competence protein	lipoprotein [impor	para-aminobenzoate	probable GTP-bindi
T06744 AD1374 D59435	T21065 B75290	I53673 D70766	AF3408 AG2451	A87601 AG2988	A99295	G89771	AF2782	F64202
000	0.0	~ ~	7 7	2 2	200	N (V	7	~
378 940 970	1253	19 146	194	233	291	330	344	367
58.9 6.88.9	58.9	57.1	57.1 57.1	57.1	57.1	57.1	57.1	57.1
333	33	332	32	32	3 7 7	32	32	32
30	333	35 36	37	39	4.	444	44	45

ALIGNMENTS

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hypothetical protein AF0946 - Archaeoglobus fulgidus
C;Species: Archaeoglobus fulgidus
C;Accession: B6936
R;Klenk, H.P.; Clayton, R.A.; Tomb, J.F.; White, O.; Nelson, K.E.; Ketchum, K.A.; Dodson, T.; Fleischmann, R.D.; Quackenbush, J.; Lee, N.H.; Sutton, G.G.; Gill, S.; Kirkness, E.F.
Glodek, A.; Zhou, L.; Overbeek, R.; Gocayne, J.D.; Weidman, J.F.; McDonald, L.
Nature 390, 364-370, 1997
A;Authors: Uterback, T.; Cotton, M.D.; Spriggs, T.; Artiach, P.; Kaine, B.P.; Sykes, S. N.
A;Attle: The complete genome sequence of the hyperthermophilic, sulfate-reducing archaeor
A;Recession: B69368
A;Scretus: preliminary; nucleic acid sequence not shown; translation not shown
A;Residues: 1-1036 «KLE»
A;Cross-references: GB:AE001039; GB:AE000782; NID:g2689362; PIDN:AAB90312.1; PID:g264967(
                                    Cispecies: boving herpesvirus 1
Cispecies: boving herpesvirus 1
Cispecies: boving herpesvirus 1
Cispecies: boving herpesvirus 1
Cispecies: Bep-1997 #sequence_revision 18-Sep-1997 #text_change 26-Aug-1999
Ciscession: S61245
Rivicek, C.; Benes, V.; Lu, Z.; Kutish, G.F.; Paces, V.; Rock, D.; Letchworth, G.J.; Schv submitted to the EMBL Data Library, January 1995
A;Description: Nucleotide sequence analysis of a 30-kb region of the bovine herpesvirus 1
A;Reference number: S61233
A;Recession: S61245
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-411 *VUC.
A;Residues: 1-411 *VUC.
A;Residues: 1-411 *VUC.
A;Cross-references: EMBL:248053; NID:g971311; PIDN:CAA88123.1; PID:g971324
C;Superfamily: herpesvirus 51K protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ..
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67.9%; Score 38; DB 2; Length 411;
Best Local Similarity 77.8%; Pred. No. 19;
Matches 7; Conservative 2; Mismatches 0; Indels
probable virion glycoprotein M (gM) - bovine herpesvirus 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  :|||||:||
141 LAAWTLQAA 149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                4 VAAWTLKAA 12
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B69368
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Gaps ö 66.1%; Score 37; DB 2; Length 1036; S8.3%; Pred. No. 71; tive 1; Mismatches 4; Indels Query Match Best Local Similarity 58.3% The Conservative

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1 AKXVAAWTLKAA 12 | | | | | | | ò

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Gypecies: Homo sapiens (man)
Cyspecies: John Spirit S
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A, Residues: 1-334, (3, 336-533 <SA2>
A, Cross-references: GB: M2983
A, Orces rreferences: GB: M2983
A, Note: the authors translated the codon GGT for residue 395 as Ala
R; Linnenbach, A.J.; Speicher, D.M.; Marchesi, V.T.; Forget, B.G.
Proc. Natl. Acad. Sci. U.S.A. 83, 2397-2401, 1986
A, Title: Cloning of a portion of the chromosomal gene for human erythrocyte alpha-spectral A, Reference number: A23533; MUID: 86205962; PMID: 3458204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Infect. Immun. 66, 5731-5742, 1998
A;Title: Complete DNA sequence and detailed analysis of the Yersinia pestis KIM5 plasmid A;Reference number: Z18268; MUID:99043898; PMID:9826348
A;Accession: T14966
A;Status: praliminary; translated from GB/EMBL/DDBJ
                                                                                                                                                                                                                                                                                                                                      ò
                                                    A;Residues: 1-1492 <HUP>
A;Cross-references: EMBL:AF053947; NID:g2996286; PID:g2996342; PIDN:AAC13222.1
C;Genetics:
A;Genome: plasmid pMT1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
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A;Cross-references: EMBL:AF074611; NID:g3883003; PID:g3883049; PIDN:AAC82709.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     phage lambda-related host specificity protein J - Yersinia pestis plasmid pMT1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            C;Species: Yersinia pestis
C;Date: 20.5ep-1999 #sequence_revision 20-Sep-1999 #text_change 22-Oct-1999
C;Accession: Ti4966
R;Lindler, L.E.; Plano, G.V.; Burland, V.; Mayhew, G.F.; Blattner, F.R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
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Pred. No. 2.4e+02;
0; Mismatches 2; Indels
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                                                                                                                                                                                                                                                   62.5%;
77.8%;
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Best Local Similarity 77.8%;
Matches 7; Conservative
                                                                                                                                                                                                                                                                                      Best Local Similarity 77.8 Matches 7; Conservative
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A;Residues: 320-450 <LIN>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1248 KVSAAWTLK 1256
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                                                                                                                                                                                                                                                                                                                                                                                                            2 KXVAAWTLK 10
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A;Gene: Y1049
A;Genome: plasmid pMT1
                 A, Molecule type: DNA
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C;Species: Pseudomonas aeruginosa (st
C;Species: Pseudomonas aeruginosa (st
C;Species: Pseudomonas aeruginosa (st
C;Accession: G3038
R;Stover, C.K.; Pham, X.Q.; Erwin, A.L.; Mizoguchi, S.D.; Warrener, P.; Hickey, M.J.; Br
adman, S.; Yuan, Y.; Brody, L.L.; Coulter, S.N.; Folger, K.R.; Kas, A.; Larbig, K.; Lim,
J. Lory, S.; Olson, M.V.
Nature 406, 959-964, 2000
A;Title: Complete genome sequence of Pseudomonas aeruginosa PA01, an opportunistic patho
A;Title: Complete genome sequence of Pseudomonas aeruginosa PA01, an opportunistic patho
A;Title: Complete year (S305) MUID:20437337; PMID:10984043
A;Status: preliminary
A;Nose-references: GB:AE004899; GB:AE004091; NID:g9951126; PIDN:AAG08241.1; GSPDB:GN001
A;Cross-references: GB:AE004899; GB:AE004091; NID:g9951126; PIDN:AAG08241.1; GSPDB:GN001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              probable sensor/response regulator hybrid PA4856 [imported] - Pseudomonas aeruginosa (st
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             protein J - Yersinia pestis plasmid pMT1
C,Species 12 Versinia pestis
C,Species 20-Sep-1999 #sequence_revision 20-Sep-1999 #text_change 20-Sep-1999
C,Accession: T14652
S,Hu, P.; Elliott, J.; McCready, D.; Skowronski, E.; Garnes, J.; Kobayashi, A.; Carrano, Submitted to the EMBL Data Library, March 1998
A;Description: Structural organization of Virulence determinants in three Yersinia pesti A;Reference number: 218168
A;Reference number: 218168
A;Accession: T14652
A;Status: preliminary; translated from GB/EMBL/DDBJ
                                                                                                                                                                                      ubiquitin-conjugating enzyme - yeast (Pichia pastoris)
C;Species: Pichia pastoris
C;Species: Pichia pastoris
C;Species: Pichia pastoris
C;Species: Pichia pastoris
C;Accession: A53848
R;Crane, D.I.; Kalish, J.E.; Gould, S.J.
B;Crane, D.I.; Kalish, J.E.; Gould, S.J.
A;Tile: The Pichia pastoris PAS4 gene encodes a ubiquitin-conjugating enzyme required
A;Reference number: A53848; MUID:94342381; PMID:8063827
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ·•
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A,Molecule Vype: DNA
A,Residues: 1-204 <CRA>
Ā;Čross-references: GB:U12511; NID:g531386; PIDN:AAA53634.1; PID:g531387
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58.3%; Pred. No. 34;
tive 1; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Best Local Similarity 58.3
Matches 7; Conservative
    332 ASTVGAWTVKEA 343
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765 AKPVAGYTLKA 775
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Best Local Similarity
Matches 8; Conserv
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A;Gene: PA4856
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
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A; Roesidues: 1-10, NY, 12-44, D', 46-85 < DUS>
A; Roesidues: 1-10, NY, 12-44, D', 46-85 < DUS>
A; Roesidues: 1-10, NY, 12-44, D', 46-85 < DUS>
A; Roesidues: 1-10, NY, 12-44, D', 46-85 < DUS>
A; Roesidues: 1-10, NY, 12-44, D', 46-85 < DUS>
A; Roesidues: 1-10, NY, 12-44, D', 46-85 < DUS>
A; Roesidues: 1-10, NY, 12-44, D', 46-85 < DUS>
Banci, L.; Bertini, I.; Dikiy, A.; Kastrau, D.H.W.; Luchinat, C.; Sompornpisut, P.
A; Reference number: A65814; PDB:1HRQ
A; Contents: annotation; conformation by (1)H-NMR, reduced form, residues 1-85
A; Reference number: A65807; PDB:1NRH
A; Contents: annotation; conformation by (1)H-NMR, oxidized form, residues 1-85
A; Roeference number: Conformation by (1)H-NMR, oxidized form, residues 1-85
A; Contents: annotation; Conformation by (1)H-NMR, oxidized form, residues 1-85
A; Contents: annotation; X-ray crystallography, 2.0 angstroms
A; Title: The environment of Reads, 1991
A; Title: The annotation; X-ray crystallography, 2.0 angstroms
A; Contents: annotation; X-ray crystallography, 2.0 angstroms
A; Contents: annotation; X-ray crystallography, 2.0 angstroms
A; Title: Two-angstrom crystal structure of oxidized Chromatium high potential iron protes)
A; Contents: annotation; X-ray crystallography, 2.0 angstroms
A; Contents: annotation; X-ray crystallography, 2.0 angstroms
A; Reference number: A92153; MUID: 43109524; PMID: 4417854
A; Title: Comparison of coxidation site geometries in oxidized and reduced Chrome A; Reference number: A9216; MUID: 75019502, PMID: 4417854
A; Contents: annotation; X-ray crystallography
A; Contents: annotation; X-ray crystallography
A; Contents: annotation; X-ray crystallography
A; Reference number: A9216; MUID: 75019502, PMID: 4417854
A; Reference number: A9216; MUID: 75019502, PMID: 4417854
A; Reference number: A9216; MUID: 75019502, PMID: 4417854
A; Rotents: annotation; X-ray crystallography
A; Reference number: A9216; MUID: 75019502, PMID: 4417854
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C;Species: Thiocapsa roseopersicina
C;Dace: 31-Mar-1981 #sequence_revision 31-Mar-1981 #text_change 31-Mar-2000
C;Accession: A00264
R;Tedro, S.M.; Meyer, T.E.; Bartsch, R.G.; Kamen, M.D.
J. Biol. Cham. 256, 731-735, 1981
J;Biol. Cham. 256, 731-735, 1981
A;Title: Primary structures of high potential, four-iron-sulfur ferredoxins from the purp A;Reference number: A92330; MUID:81094036; PMID:7451471
                                                                                                                                                                                                                                                                                                                  high potential iron-sulfur protein [validated] - Chromatium vinosum N; Alternate names: HiPIP C;Species: Chromatium vinosum C;Species: Chromatium vinosum C;Species: Chromatium vinosum C;Space: 24-Apr-1984 #sequence revision 24-Oct-1997 #text_change 15-Sep-2000 C;Accession: A92330; A92143; A0263 R;Tedro, S.M.; Meyer, T.E.; Bartsch, R.G.; Kamen, M.D. J. Biol. Chem. 256, 731-735, 1981 A;Title: Primary structures of high potential, four-iron-sulfur ferredoxins from the purp A;Reference number: A92330; MUID:81094036; PMID:7451471
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A,Accession: A92330
A,Molecule Vype: procein
A,Residues: 1-73, D', 75-85 <TED>
R,Dus, K.; Tedro, S.; Bartsch, R.G.
J. Ba.O.: Chem. 248, 7318-7331, 1973
A,Fitle: The complete amino acid sequence of Chromatium high potential iron sulfur protes
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C.Keywords: 4Fe-4S, electron transfer; iron-sulfur protein; metalloprotein
F,43,46,63,77/Binding site: 4Fe-4S cluster (Cys) (covalent) #status experimental
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Pred. No. 22;
1; Mismatches 0; Indels
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                                       1913 AKAIAAWKLQ 1922
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A;Cross-references: GB:M1323; NID:G182242; PIDN:AAA53103.1; PID:G182243
Gene 35, 357-362, 1095
A;Title: Sequence comparison of human and murine erythrocyte alpha-spectrin cDNA.
A;Accession: A9152B; MUID:B6083178; PMID:300887
A;Accession: A9152B; MUID:B6083178; PMID:300887
A;Accession: A9152B; MUID:B6083178; PMID:300887
A;Accession: A9152B; MUID:B10938310; PIDN:AA60569.1; PID:G553648
A;Accession: A9152B; MUID:B10938310; PIDN:AA60569.1; PID:G553648
A;Accession: A9152B; MUID:B2140318310; PIDN:AA60569.1; PID:G553648
A;Accession: A9287
A;Title: Properties of human red call spectrin heterodimer (side-to-side) assembly and in the sequence number: A91872; MUID:B2140316; PMID:1634521
A;Accession: A9287
A;Residues: 7-1472-1472; MUID:B2140316; PMID:1634521
A;Residues: 7-1616-55;60-689;1047-1056;1921-1930 cSD1>
A;Residues: 7-1616-55;60-689;1047-10580;1047-1056;1047-1056;1047-1056;1047-1056;1047-1056;1047-1056;1047-1056;1047-1056;1047-1056;1047-1059;1047-1059;1047-1056;1047-1056;1047-1056;1047-1056;1047-1056;1047-1056;1047-1056;1047-1056;1047-1056;1047-1056;1047-1056;1047-1056;1047-1056;1047-1056;1047-1056;1047-1056;1047-1056;1047-1059;1047-1059;1047-1059;1047-1059;1047-1059;1047-1059;1047-1059;1047-1059;1047-1059;1047-1059;1047-1059;1047-1059;1047-1059;1047-1059;1047-1059;1047-1059;1047-1059;1047-1059;1047-1059;1047-1059;
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C;Keywords: actin binding; cytoskeleton; duplication; Ephand; erythrocyte; heterodimer;
C;Keywords: actin binding; cytoskeleton; duplication; EF hand; erythrocyte; heterodimer;
E;52-156/Domain: spectrin/dystrophin repeat homology cSP1>
F;263-158/Domain: spectrin/dystrophin repeat homology cSP3>
F;263-136/Domain: spectrin/dystrophin repeat homology cSP4>
F;263-136/Domain: spectrin/dystrophin repeat homology cSP5>
F;360-474/Domain: spectrin/dystrophin repeat homology cSP6>
F;360-43/Domain: spectrin/dystrophin repeat homology cSP6>
F;360-43/Domain: spectrin/dystrophin repeat homology cSP7>
F;360-43/Domain: spectrin/dystrophin repeat homology cSP7>
F;381-685/Domain: spectrin/dystrophin repeat homology cSP1>
F;381-1387/Domain: spectrin/dystrophin repeat homology cSP1>
F;1081-1181/Domain: spectrin/dystrophin repeat homology cSP1>
F;1081-1181/
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Pred. No. 3.9e+02;
2; Mismatches 2;
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60.0%;
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1 AKXVAAWTLK 10

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Conserved hypothetical protein Atu1644 [imported] - Agrobacterium tumefaciens (strain CSE, CSPecies: Agrobacterium tumefaciens
C;Species: Agrobacterium tumefaciens
C;Species: Agrobacterium tumefaciens
C;Species: Agrobacterium tumefaciens
C;Accession: AG3778
R;Wood, D.W.; Setubal, J.C.; Kaul, R.; Monks, D.; Chen, L.; Wood, G.E.; Chen, Y.; Woo, L. erage, G.; Gillet, W.; Grant, C.; Guenthner, D.; Kutyavin, T.; Levy, R.; Li, M.; McClella, K. Arp, P.; Romero, P.; Zhang, S.
Science 294, 2317-2323, 2001
A;Authors: Yoo, H.; Tao, Y.; Biddle, P.; Jung, M.; Krespan, W.; Perry, M.; Gordon-Kamm, El
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A;Status; preliminary
A;Status; preliminary
A;Status; preliminary
A;Roselue type: DNA
A;Residues: 1-297 «KUR»
A;Cross-references: GB:ABD06469; PIDN:AAK65599.1; PID:g14524081; GSPDB:GN00165
A;Residues: 1-297 «KUR»
A;Reperimental source: strain 1021, megaplasmid pSyma
A;Reperimental source: strain 1021, megaplasmid pSyma
B;Galibert, F.; Finan, T.M.; Long, S.R.; Puhler, A.; Abola, P.; Ampe, F.; Barloy-Hubler,
B;Galibert, F.; Finan, T. Cong, S.R.; Puhler, A.; Rederspiel, N.A.; Fisher, R.F.;
L.; Hyman, R.W.; Jones, T.
Science 293, 668-672, 2001
A;Authors: Kahn, D.; Kahn, M.L.; Kalman, S.; Keating, D.H.; Kiss, E.; Komp, C.; Lelaure,
hbaault, P.; Vandenbool, M.; Vorholter, F.J.; Weather, S.; Wells, D.H.; Wong, K.; Yeh, K.O
A;Ritle: The composite genome of the legume symbiont Sinorhizobium mellioti.
A;Reference number: A96039; MUID:21368234; PMID:11474104
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      probable arginase (EC 3.5.3.1) Arg12 [imported] - Sinorhizobium meliloti (strain 1021) mki Cispecies: Sinorhizobium meliloti (Cjāreis 24-Aug-2001 #sequence_revision 24-Aug-2001 #text_change 14-Sep-2001 Cjāreis 24-Aug-2001 #sequence_revision 24-Aug-2001 #text_change 14-Sep-2001 Cjāreis 24-Aug-2001 B95379
Ribarnett, M.J. Fisheir, R.F.; Jones, T.; Komp, C.; Abola, A.P.; Barloy-Hubler, F.; Bowser, Kalman, S.; Keating, D.H.; Palm, C.; Peck, M.C.; Surzycki, R.; Wells, D.H.; Yeh, K.C., Proc. Natl. Acad. Sci. U.S.A. 98, 9883-9888, 2001
A; Title: Nucleotide sequence and predicted functions of the entire Sinorhizobium melilotal A; Reference number: A95262; MUID:21396509; PMID:11481432
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A;Molecule type: DNA
A;Residues: 1-201 cKUR>
A;Residues: 1-201 cKUR>
A;Residues: 1-201 cKUR>
A;Residues: 1-201 cKUR>
C;Genetics: GB:AE008688; PIDN:AAL42645.1; PID:g17740076; GSPDB:GN00186
C;Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ster, E.W.
A,Title: The Genome of the Natural Genetic Engineer Agrobacterium tumefaciens
A,Reference number: AB2577; PMID:11743193
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50.0%; Pred. No. 75;
tive 3; Mismatches
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A;Map position: circular chromosome
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Matches 6; Conservative
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64 ARAIAAWSPKLA 75
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191 REIVAWTLKS 200
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C; Keywords: hydrolase
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C;Species: Caulobacter crescentus
C;Species: Caulobacter crescentus
C;Species: Caulobacter crescentus
C;Accession: H87678
R;Nierman, W.C.; Feldblyum, T.V.; Paulsen, I.T.; Nelson, K.B.; Eisen, J.; Heidelberg, J.
B.; Laub, M.T.; DeBoy, R.T.; Deaboy, R.J.; Durkin, A.S.; Gwinn, M.L.; Haft, D.H.; Kolon
D.; Ermolaeva, M.; White, O.; Salzberg, S.L.; Shapiro, L.; Venter, J.C.; Fraser, C.M.
Proc. Natl. Acad. Sci. U.S.A. 98, 4136-4141, 2001
A;Title: Complete Genome Sequence of Caulobacter crescentus.
A;Reference number: A87249; MUID:21173698; PMID:11259647
A;Accession: H87678
A;Accession: H87678
A;Molecule type: DNA
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A;Status: preliminary
A;Molet type: DNA
A;Residues: 1-201 <KUR>
A;Cross-references: GB:AE007869; PIDN:AAK87420.1; PID:g15156733; GSPDB:GN00169
                                       A;Molecule type: protein
A;Residues: 1-85 <TED>
C;Superfamily: high potential iron-sulfur protein
C;Keywords: 4Fe-4S; electron transfer; iron-sulfur protein; metalloprotein
F;43,46,63,77/Binding site: 4Fe-4S cluster (Cys) (covalent) #status predicted
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50.0%; Pred. No. 51;
tive 3; Mismatches
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A;Gene: AGR C 3031
A;Map positIon: circular chromosome
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58.3%;
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Best Local Similarity 58.3.
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A; Accession: A00264
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Search completed: January 29, 2003, 10:47:34 Job time : 11.8727 secs

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P82532

CyPr-binding protein XF2641 [imported] - Xylella fastidiosa (strain 9a5c)

CySpecies: Xylella fastidiosa

CyDate: 18-Aug-2000 #sequence_revision 20-Aug-2000 #text_change 02-Sep-2000

CyAccession: B82532

Ryanonymous, The Xylella fastidiosa Consortium of the Organization for Nucleotide Sequen Nature 406, 151-157, 2000

A;Title: The genome sequence of the plant pathogen Xylella fastidiosa.

A;Note: for a complete list of authors see reference number A59328 below

A;Accession: B82532
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[CiSpesies: Halobacterium sp. NRC-1
[CiSpesies: Halobacterium sp. NRC-1
[CiSpesies: O2-Feb-2001 #sequence_revision 02-Feb-2001 #text_change 02-Feb-2001
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A;Molecule type: DNA
A;Residues: 1-418 <STO>
A;Cross-references: GB:AE004437; NID:g10581520; PIDN:AAG20247.1; GSPDB:GN00138
C;Genetics:
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C.Genetics:
A.Gene: XF2641
C.Superfamily: yeast probable purine nucleotide-binding protein YBR025c
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Pred. No. 91;
2; Mismatches 2; Indels
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Matches 6; Conservative
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RESULT 14
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CAID_SALTI
CAID_SALTY
MTD1_YEBAST
ALFB_HUMAN
ALFB_RAT
PLYB_ASPNG
RYB_ASPNG
RYB_HUMAN
BMP3_HUMAN
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      RESULT 1
VGLM_HSVBC
ID VGLM_HSVBC
AC P52370;
      P52370 bovine herp
P49428 pichia past
P02549 homo sapien
P80176 thermochrom
P00260 chromatium
P7222 mycoplasma
P7222 mycoplasma
P78220 mycoplasma
P78210 homo sapien
P7664 rattus norv
P7664 rattus norv
P7669 mycobacteri
Q81325 rattus norv
P29749 thermus the
P91325 rattus norv
P29749 thermus the
P91325 rattus norv
P29749 thermus che
P6976 bacceriopha
P01102 mus musculu
P10103 homo sapien
P110103 homo sapien
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                                                                                                                                                                                                            January 29, 2003, 10:30:17; Search time 5.90909 Seconds (without alignments) 91.248 Million cell updates/sec
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                                        GenCore version 5.1.3
Copyright (c) 1993 - 2003 Compugen Ltd.
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Maximum Match 100%
Listing first 45 summaries

    protein search, using sw model

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1 AKXVAAWTLKAAX 13
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Maximum DB seq length: 200000000
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	Z	DT 01-OCT-1996 (Rel. 34, Last annotation update)	
	DE	DE Glycoprotein M.	
_	Ü	GN GM OR UL10.	
	SO	OS Bovine herpesvirus type 1 (strain Cooper).	
	8		
	8	OC Alphaherpesvirinae; Varicellovirus.	
_	ő	OX NCBI TaxID=10323;	
	RN	RN [1] _	
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	RI	RT "Nucleotide sequence analysis of a 30-kb region of the bovine	
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	ń	SECOENCE 411 AA; 43029 AM;	
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		cal Similarity 77.8%; Pred. No. 7.3;	•
		Matches 7; Conservative 2; Mismatches 0; Indels 0; Gaps	:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation. The European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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A Crana D.I., Kalish J.E., Gould S.J.;
Crana D.I., Kalish J.E., Gould S.J.;
The Pichia pastoris pAst gene encodes a ubiquitin-conjugating enzyme required for peroxisome assembly.";
J. Bal. Chem. 269:12183-2184 (1994).
C. -! FUNCTION: CATALYZES THE COVALENT ATTACHMENT OF UBIQUITIN TO COTHER PROTEINS. ESSENTIAL FOR PEROXISOME BIOGENESIS.
C. -! CATALYTIC ACTIVITY: ATP + ubiquitin + protein lysine = AMP + diphosphate + protein N-ubiquityllysine.
C. -! PATHWAY. Ubiquitylin conjugation; second step.
C. -! MISCELLANEOUS: A CYSTEINE RESIDUE IS REQUIRED FOR UBIQUITIN-THIOLOGESTER FORMATION.
C. -! MISCELLANEOUS: A CYSTEINE RESIDUE IS REQUIRED FOR UBIQUITIN-CONJUGATING ENZYME FAMILY.
C. -! SIMLARITY: BELGORG TO THE UBIQUITIN-CONJUGATING ENZYME FAMILY.
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                                                                        01-FEB-1996 (Rel. 33, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
Ubiquitin-conjugating enzyme E2-24 kDa (EC 6.3.2.19) (Ubiquitin-protein ligase) (Ubiquitin carrier protein) (Peroxin-4).
                                                                                                                                                                                                             Eukaryota, Fungi, Ascomycota, Saccharomycotina, Saccharomycetes,
Saccharomycetales, Saccharomycetaceae, Pichia,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ;
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PROSITE; PSS0127; UBIQUITIN CONJUGAT 2; 1.
Ubl conjugation pathway; Ligase; Multigene family; Peroxisome.
BINDING 133 133 UBIQUITIN (BY SIMILARITY).
MUTAGEN 133 133 C->5, A: LOSS OF ACTIVITY.
SEQUENCE 204 AA; 23565 MW; 46680ABD73121F6C CRC64;
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P02543, 015514;
21-JUL-1986 (Rel. 01, Created)
01-NOV-1995 (Rel. 32, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
Spectrin alpha chain, erythrocyte (Erythroid alpha-spectrin).
SPATI OR SPFA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 35; DB 1; Length 204;
Pred. No. 14;
1; Mismatches 4; Indels
                                      204 AA.
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Pfam, PP00179; UQ con; 1.
ProDom; PD000461; UBQ_conjugat; 1.
SMART; SM00212; UBCc; 1.
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58.3%;
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les 7; Conservative
                                      STANDARD;
                                                                                                                                                                                            Pichia pastoris (Yeast).
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                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
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                                    PICPA
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P49428;
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SPCA_HUMAN
RESULT 2
UBCX_PICPA
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SEQUENCE OF 7-125.
MEDLINE=84087887; PubMed=6654895;
Spelcher D.W., Davis G., Yurchenco P.D., Marchesi V.T.;
Spelcher D.W., Davis G., Yurchenco P.D., Marchesi V.T.;
Structure of human erythrocyte spectrin. I. Isolation of the alpha-I domain and its cyanogen bromide peptides.";
J. Biol. Chem. 258:14931-14937(1983).
                                                                                                                                                                                                                                                                                                          MEDLINE=90009318; PubMed=2794061; Sank K., Marchesi S.L., Agare T., Scarpa A., Laughinghouse K., Marchesi S.L., Agre P., Linnenbach A.J., Marchesi V.T., Forget B.G.; "Sequence and exon-intron organization of the DNA encoding the alpha I domain of human spectrin. Application to the study of mutations causing hereditary elliptocytosis."; J. Clin. Invest. 84:1243-1252(1989).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Speicher D.W., Marchesi V.T.,
"Erythrocyte spectrin is comprised of many homologous triple helical
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MEDLINE=86205962; PubMed=3458204;
Linnenbach A.J., Speicher D.W., Marchesi V.T., Forget B.G.;
Linnenbach A.J., Speicher D.W., Marchesi V.T., Forget B.G.;
"Cloning of a portion of the chromosomal gene for human erythrocyte
alpha-spectrin by using a synthetic gene fragment.";
Proc. Natl. Acad. Sci. U.S.A. 83:2397-2401(1986).
                                                                                                                                   Sahr K.E., Laurila P., Kotula L., Scarpa A.L., Coupal E., Leto T.L. Linnenbach A.J., Winkelmann J.C., Speicher D.W., Marchesi V.T., Curtis P.J., Forget B.G.;
        Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
NCBL_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDLINE=84087888; PubMed=6654896; Speicher D.W., Davis G., Marchesi V.T.; "Structure of human erythrocyte spectrin. II. The sequence of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Parquet N., Devaux I., Boulanger L., Galand C., Boivin P., Lecomte M.-C., Dhermy D., Garbarz M.; "Identification of three novel spectrin alpha I/74 mutations in hereditary elliptocytosis: further support for a triple-stranded folding unit model of the spectrin heterodimer contact site."; Blood 84:303-308(1994).
                                                                                                                                                                                               complete cDNA and polypeptide sequences of human erythroid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Maillet P., Alloisio N., Morle L., Delaunay J., "Spectrin mutations in hereditary elliptocytosis and hereditary
                                                                                                                                                                                                                                                                        SEQUENCE OF 7-533 FROM N.A., AND VARIANTS PRO-260, PRO-261 AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         IDENTIFICATION OF PROBABLE FRAMESHIFT IN 2407-2418.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   alpha-I domain.";
J. Biol. Chem. 258:14938-14947(1983).
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                                                                                                                                                                                                                  alpha-spectrin.";
J. Biol. Chem. 265:4434-4443(1990)
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SEQUENCE FROM N.A.
MEDLINE=90170949; PubMed=1689726;
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VARIANT SER-24.
MEDLINE=94289716; PubMed=8018926;
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sapiens (Human)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Wilmotte R., Marechal J., Morle L., Baklouti F., Philippe N.,
Kastally R., Kotula L., Delaunay J., Alloisio N.;
"Low expression allele alpha LELY of red cell spectrin is associated
with mutations in exon 40 (alpha V/41 polymorphism) and intron 45 and
with partial skipping of exon 46.";
J. Clin. Invest. 91:2091-2096(1993).
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Morle L., Roux A.-F., Alloisio N., Pothier B., Starck J., Denoroy J.,
Morle F., Rudigoz R.-C., Forget B.G., Delaunay J., Godet J.;
"Two elliptocytogenic alpha 1/74 variants of the spectrin alpha I
domain. Spectrin Culoz (GGT-->CTT; alpha I 40 Gly-->Val) and
spectrin Lyon (CTT-->TTT; alpha I 43 Leu-->Phe).";
                                                                                                                                                                                                                                                                                                                                                                                                                         MEDLINE-89323468, PubMed=2568862, Lecomte M.C., Garbarz M., Grandchamp B., Feo C., Gautero H., Devoux I., Bournier O., Galand C., D'Auriol L., Galibert F., Sahr K.E., Forget B.G., Boivin P., Dhermy D.; "Sp alpha I/78: a mutation of the alpha I spectrin domain in a white kindred with HE and HPP phenotypes.", Blood 74:1126-1133 (1989).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "A common type of the spectrin alpha I 46-50a-kD peptide abnormality in hereditary elliptocytosis and spropoidifocytosis is associated with a mutation distant from the proteolytic cleavage site. Evidence for the functional importance of the triple helical model of
                                                                                                                                                                                             MEDLINE=91346849; PubMed=1878597;
Floyd P.B., Gallagher P.G., Valentino L.A., Davis M., Marchesi S.L.,
Forget B.G.;
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                                                                                                                                                                                                                                                                                         pyropoikilocytosis and hereditary elliptocytosis associated with increased levels of the spectrin alpha I/74-kilodalton tryptic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gallagher P.G., Tse W.T., Coetzer T., Lecomte M.-C., Garbarz M.,
Zarkowsky H.S., Baruchel A., Ballas S.K., Dhermy D., Palek J.
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                                                                                                                                                                                                                                                                      "Heterogeneity of the molecular basis of hereditary
                                                                                                           1/74 in hereditary elliptocytosis.";
J. Clin. Invest. 88:743-749(1991).
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MEDLINE=94043025; PubMed=8226774;
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MEDLINE=92176375; Pubmed=1541680;
MEDLINE=91358728; PubMed=1679439;
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MEDLINE=93253053; PubMed=8486776;
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                                                                                                                                                                              VARIANTS SER-28 AND ARG-48
                                                                                                                                                                                                                                                                                                                                                             Blood 78:1364-1372(1991).
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Gallanello R.;
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REAL TRANSPORTED TO THE SET TH

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VARIANT ANASTASIA.

WEDLINES-2529423; PubMed=7772539;

Perrotta S. 101ascon A. de Angelis F., Pagano L., Colonna G.,

Cutillo S., del Giudice E.M.;

Cutillo S., del Giudice E.M.;

Spectrin Lansatagia (alpha 1/78): a new spectrin variant (alpha 45

Arg-->Thr) with moderate elliptocytogenic potential.;

Br. J. Haematol. 89:933-936(1995).

I- FUNCTION: SPECTRIN IS THE MAJOR CONSTITUENT OF THE CYTOSKELETAL

NETWORK UNDERLYING THE ERYTHROCYTE PLASMA MENBRANE. IT ASSOCIATES

WITH BAND 4.1 AND ACTIN TO FORM THE CYTOSKELETAL SUPERSTRUCTURE OF

THE ERYTHROCYTE PLASMA MEMBRANE.

I- SUBDATT: COMPOSED OF NONHOMOLOGOUS CHAINS, ALPHA AND BETA, WHICH

AGGREGATE SIDE IN AN ANTIPRARALLEL FASHION TO FORM DIMERS,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TETRAMERS, AND HIGHER POLYMERS.
DIEBEASE: HEREDITARY ELLIPPOCYTOSIS (HE) IS A HETEROGENEOUS
DISORDER CHARACTERIZED BY VARIABLE HEMOLYTIC ANEMIA AND ELLIPTICAL
RED CELL STAPE. SPERRAL ARNORMALITIES IN THE MEMBRANE SKELETON
HAVE BEEN IDENTIFIED IN HE, INCLUDING A NUMBER THAT HAVE BEEN
                                                                                                                                                                                                                                                                                                                                                                                                                  Morle L., Morle F., Roux A.F., Godet J., Forget B.G., Denoroy L., Garbarz M., Dhermy D., Kasrally R., Delaunay J., Sectrin Tunis (Sp alpha I/78), an elliptocytogenic variant, is due to the CGG--yGG codon change (Arg-->Trp) at position 35 of the Blood 74:828-832(1989).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MEDLINE-94250920; PubMed-8193371; Perrotta S., del Giudice E.M., Alloisio N., Sciarratta G., Pinto L., Delaunay J., Cutillo S., Lolascon A., "Mild elliptocytosis associated with the alpha 34 Arg-->Trp mutation in spectrin Genova (alpha 1/74)."; Blood 83:3346-3349(1994).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                      "Spectrin Jendouba: an alpha II/31 spectrin variant that is associated with elliptocytosis and carries a mutation distant from the dimer self-association site.";
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                                                                                                                  Baklouti F., Marechal J.,
Forget 8.G., Kastally R.,
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Bacteria; Proteobacteria; gamma subdivision; Chromatiaceae;
Thermochromatium.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 2418;
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                       [18]
VARIANT JENDOUBA.
WARDILNE-$2345619; PubMed=1638030;
Alloisio N., Wilmotte R., Morle L., B?
Ducluzeau M.-T., Denoroy L., Feo C., I
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Clin. Invest. 86:548-554(1990)
                                                                                                                                                                                                                                                                                                                                                                                       MEDLINE=89323436; PubMed=2568861;
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(Rel. 27, Last seq
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                                                                                                                                                                                                                                                                                                                                                                VARIANT TUNIS
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Biochim. Biophys. Acta 1352:18-22(1997)
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STRAIN=D / ATCC 17889 / DSM 180;
STRAIN=T4012043; PubMed=474571;
Dus K., Tedro S., Bartsch R.G.;
"The complete amino acid sequence of
                                                                                                                                                                                                                 PIR; A00264; IHTPER.
HSSP; P00260; ICKU.
INTERPRO; IPR000170; Hippt_ironsulf.
PEdm; PF01355; HIPIP; 1.
PRINTS; PR00374; HIPIPFROXIN.
PROSITE; PS00596; HIPIP; 1.
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Biol. Chem. 248:7318-7331(1973).
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85.7%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      procein from Thermochromatium tepidum.";
Acta Crystallogr. D 58:108-1091(2002).

- PUNCTIONS SPECIFIC CLASS OF HIGH-REDOX-POTENTIAL 4FE-4S

- PUNCTIONS : PENCTIONS IN ANABEOBIC ELECTRON TRANSPORT IN MOST
FERREDOXINS. FUNCTIONS IN ANABEOBIC ELECTRON TRANSPORT IN MOST
PURPLE AND IN SOME OTHER PHOTOSYNTHETIC BACTERIA AND IN AT LEAST
ONE GENUX (PARACOCCUS) OF PHILOPHILIC, DENITRIFYING BACTERIA.

THE MIDPOINT REDOX POTENTIAL FOR THIS PROTEIN IS +323 MV.

- SUBUNIT: HOWODIMER (PROBABLE).

- SIMILARITY: BELONGS TO THE HIGH POTENTIAL IRON-SULFUR PROTEIN

(HIPIP) PAMILY.

(HIPIP) PAMILY.
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Tedro S.M., Meyer T.E., Bartsch R.G., Kamen M.D.;
"Primary structures of high potential, four-iron-sulfur ferredoxins
from the pruple sulfur photosynthetic bacteria, Thiocapsa
Toseopersicina and Chromatium gracile.";
Toseopersicina and Chromatium gracile.";
                                                                                            "Primary structure of Chromatium tepidum high-potential iron-sulfur
                                                                                                                                                                                                                                                    MEDINE_20588546 PubMed=11095707;
Nogi T., Fathir I., Kobayashi M., Nozawa T., Miki K.;
Nogi T., Fathir I., Kobayashi M., Nozawa T., Miki K.;
"Crystal structures of photosynthetic reaction center and high-potential iron-sulfur protein from Thermochromatium tepidum: thermoctability and electron transfer.";
Proc. Natl. Acad. Sci. U.S.A. 97:13561-13566 (2000).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE=22071404; PubMed=12077426;
Liu L., Nogi T., Kobayashi M., Nozayashi M., Nozaontiai ivon-sulfur
"Uttrahigh-resolution structure of high-potential iron-sulfur
                               Moulis J.-M., Scherrer N., Gagnon J., Forest E., Petillot Y.,
Garcia D.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 34; DB 1; Length 83;
Pred. No. 8.7;
1; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          METAL 43 1200-8ulfur, 4Fe-45; 3D-structure. METAL 43 43 IRON-SULFUR (4FE-45). METAL 46 46 IRON-SULFUR (4FE-45). METAL 61 61 IRON-SULFUR (4FE-45). METAL 75 75 IRON-SULFUR (4FE-45). SEQUENCE 83 AA; 8786 MW; 92116E4FDZC44EOA CRC64;
                                                                                                                               protein in relation to thermal denaturation."; Arch. Biochem. Biophys. 305:186-192(1993).
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21-JUL-1986 (Rel. 01, Last sequence update)
15-JUL-2002 (Rel. 41, Last amnotation update)
High potential iron-sulfur protein (HIPIP).
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   MEDLINE=93343628; PubMed=8393645;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Pfam, PF01355, HIPIP; 1.
PRINTS, PR00374; HIPIPFRDOXIN.
PROSITE, PS00596; HIPIP; 1.
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76 ASWTLKA 82
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-i- FUNCTION: SPECIFIC CLASS OF HIGH-REDOX-POTENTIAL 4FE-4S
FERREDOXIN: FUNCTIONS IN ANABEROE TRANSPORT IN MOST
PURPLE AND IN SOME OTHER PHOTOSYNTHETIC BACTERIA AND IN AT LEAST
ONE GENUS (PARACOCCUS) OF HALOPHILIC, DENITRIFYING BACTERIA.
--- SUBLUNIT: HOWODIWER (PROBABLE).
--- SIMILARITY: BELONGS TO THE HIGH POTENTIAL IRON-SULFUR PROTEIN
(HIPIP) PAMILY.
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Tedro S.M., Meyer T.E., Bartsch R.G., Kamen M.D.;

"Primary structures of high potential, four-iron-sulfur ferredoxins

from the purple sulfur photosynthetic bacteria, Thiocapsa

roseopersicina and Chromatium gracile.";

J. Biol. Chem. 256:731-735(1981).
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MEDLINE=97320627; PubMed=9177478;
Bruser T., Truper H.G., Dahl C.,
"Cloning and sequencing of the gene encoding the high potential irc
sulfur protein (HiPIP) from the purple sulfur bacterium Chromatium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE-74309824; PubMed=4855287; Carter C.W. Jr., Kraut J., Freer S.T., Xuong N.H., Alden R.A., Bartsch R.G., Strach R.G., M. Jr. Aruture of oxidized Chromatium high potential iron T.P.A crystal structure of oxidized Chromatium high potential iron
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 34, DB 1; Length 85;
Pred. No. 8.9,
.; Mismatches 0; Indels
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METAL 43 43 IRON-SULFUR (4FE-4S) (BY METAL 63 63 IRON-SULFUR (4FE-4S) (BY METAL 77 77 IRON-SULFUR (4FE-4S) (BY SEQUENCE 85 AA, 8889 MW; C47AD/47D2218442 (RC64;)
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15-DEC-1998 (Rel. 37, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
High potential iron-sulfur protein precursor (HiPIP)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDLINE-96216867, Published 11. Cappozi F., Dikiy A., Eltis L., Luchinat C., Bentrop D., Bertini I., Cappozi F., Dikiy A., Eltis L., Luchinat C., "Three-dimensional structure of the reduced C778 mutant of the Chromatium vinosum high-potential iron-sulfur protein through nuclear magnetic resonance; comparison with the solution structure of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDLINE=20003126; PubMed=10531472; Damzin V., Luchinat C., Parisini E., Capozzi F., Lubini P., Lamzin V., Luchinat C., Sheldrick G.m.; And M.; And Initio solution and refinement of two high-potential iron protein
                                                                                                                                                                                                                                                                                                                        Gaillard J., Albrand J.-P., Moulis J.-M., Wemmer D.E.;
"Sequence-specific assignments of the 1H nuclear magnetic resonance
spectra of reduced high-potential ferredoxin (HiPIP) from Chromatium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Bertini I., Dikiy A., Kastrau D.H., Luchinat C., Sompornpisut P.; "Three-dimensional solution structure of the oxidized high potential iron-sulfur protein from Chromatium vinosum through NMR. Comparative analysis with the solution structure of the reduced species."; Biochemistry 34:9851-9858 (1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        "The three-dimensional solution structure of the reduced high-potential iron-sulfur protein from Chromatium vinosum through NMR."; Biochemistry 34:206-219(1995).
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ACTA CYSTALLIOGY. D 55:1773-1784 (1999).

-!- FUNCTION: SPECIFIC CLASS OF HIGH-REDOX-POTENTIAL 4FE-4S

FERREDOXINS. FUNCTIONS IN ANAEROBIC ELECTRON TRANSPORT IN MOST PURPLE AND IN SOME OTHER PHOTOSYNTHETIC BACTERIA AND IN AT LEAS ONE GENUS (PARACOCCUS) OF HALOPHILLC, DENITRIFYING BACTERIA.

-!- SUBUNIT: HOMODIMER (PROBABLE).

-!- SUBCELLIALAR LOCATION: PERIAB POTENTIAL IRON-SULFUR PROTEIN (HIPIP) FAMILY: BELONGS TO THE HIGH POTENTIAL IRON-SULFUR PROTEIN (HIPIP) FAMILY.
                                                                                                   MEDLINE-92135210; PubMed-1734968; Netcesheim D.G., Harder S.R., Feinberg B.A., Otvos J.D.; Netcesheim D.G., Harder S.R., Feinberg B.A., Otvos J.D.; Sequential resonance assignments of oxidized high-potential iron-sulfur protein from Chromatium vinosum."; Biochemistry 31:1234-1244 (1992)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MEDLINE-95118989; PubMed-7819198;
Banci L., Bertini I., Dikiy A., Kastrau D.H.W., Luchinat C.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             X-RAY CRYSTALLOGRAPHY (0.93 ANGSTROMS).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STRUCTURE BY NMR OF MUTANT SER-114.
protein.";
J. Biol. Chem. 249:4212-4225(1974)
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MEDLINE=92304939; PubMed=1610810;
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Biochemistry 35:5928-5936(1996).
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1HRQ; 03-JUN-95.
1HRR; 31-JUL-95.
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                                                                              STRUCTURE BY NMR.
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01-NOV-1997 (Rel. 35, Created)
01-NOV-1997 (Rel. 35, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
Arginyl-tRNA synthetase (EC 6.1.1.19) (Arginine--tRNA ligase) (ArgRS).
ARGS OR MPNS56 OR MP286.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    'Complete sequence analysis of the genome of the bacterium Mycoplasma
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                            H POTENTIAL IRON-SULFUR PROTEIN.
N-SULFUR (4FE-45).
N-SULFUR (4FE-45).
N-SULFUR (4FE-45).
N-SULFUR (4FE-45).
> D (IN REF. 3).
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0
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                                                                    PROSITE; PS00596; HIPP; 1.
Electron transport; Iron-Bulfur; 4Fe-4S; Periplasmic; Signal;
3D-structure.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Himmelreich R., Hilbert H., Plagens H., Pirkl E., Li B.-C.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Nucleic Acids Res. 24:4420-4449(1996).
-!- CATALYTIC ACTIVITY: ATP + L-arginine + tRNA(Arg) = AMP
                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 34; DB 1; Length 122;
Pred. No. 13;
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                  12761 MW; ACBBAFC917F32A09 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     537 AA
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1; Mismatches
                                                                                                            HIGH POTENTIA
IRON-SULFUR (
IRON-SULFUR (
IRON-SULFUR (
IRON-SULFUR (
                                      InterPro; IPR000170; Hipot_ironsulf.
Pfam; PF01355; HIPIP; 1.
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STRAIN=ATCC 29342 / M129;
MEDLINE=97105885; PubMed=8948633;
                                                          PRINTS, PR00374; HIPIPFRDOXIN
                                                                                                                                                                                                                                                                                                                                                                                                                                   60.7%;
ilarity 85.7%;
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STANDARD;
                                                                                                    Mycoplasma pneumoniae.
08-MAR-96.
10-JUN-96.
16-DEC-98.
13-MAY-99.
                                                                                                                                                                                                                                                                                                                                                                                            115
119
122 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                Local Similarity
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65
75
83
84
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         1NOE;
                              LCKU;
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METAL
METAL
CONFLICT
TURN
STRAND
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between the Swiss Institute of Bioinformatics and the EMBL outstation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                15-JUN-2002 (Rel. 41, Created)
15-JUN-2002 (Rel. 41, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
Small conductance calcium-activated potassium channel protein 2 (SK2).
KCNN2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       myometrium.";
submitted (JUL-2001) to the EMBL/GenBank/DDBJ databases.
-!- FUNCTION: FORMS A VOLTAGE-INDEPENDENT POTAGSIUM CHANNEL ACTIVATED
-!- FUNCTION: FORMS A VOLTAGE-INDEPENDENT POTAGSIUM CHANNEL ACTIVATED
BY INTRACELLULAR CALCIUM. ACTIVATION IS FOLLOWED BY MEMBRANE
HYPERPOLARIZATION. THOUGHT TO REGULATE NEURONAL EXCITABILITY BY
CONTRIBUTING TO THE SLOW COMPONENT OF SYNAPTIC
AFTERPYERPOLARIZATION. THE CHANNEL IS BLOCKED BY ADAMIN.
-!- SUBUNIT: HETERO-OLIGOMER. THE COMPLEX IS COMPOSED OF 4 CHANNEL
SUBUNITS EACH OF WHICH BINDS TO A CALMODULIN SUBUNIT WHICH
                                                                                                                                                                                                                                                  SEGMENT S1 (POTENTIAL).
SEGMENT S2 (POTENTIAL).
SEGMENT S2 (POTENTIAL).
SEGMENT S3 (POTENTIAL).
SEGMENT S4 (POTENTIAL).
SEGMENT S5 (POTENTIAL).
SEGMENT S6 (POTENTIAL).
SEGMENT S6 (POTENTIAL).
SEGMENT S6 (POTENTIAL).
CALMODULIN-BINDING (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TISSUE=Myometrium;
Mazzone J.N., Kaiser R.A., Buxton I.L.O.;
"Characterization of calcium-activated potassium channels in human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Desai R., Peretz A., Idelson H., Lazarovici P., Attali B.,
"Ca2+-activated K+ channels in human leukemic Jurkat T cells.
Molecular cloning, biochemical and functional characterization.",
J. Biol. Chem. 275:39954-39963(2000).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Buteleostomi,
Mammalia, Butheria, Primates, Catarrhini, Hominidae, Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1; Length 574;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0; Indels
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ed. No. 56;
Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 34;
Pred. No. 5
                                                                                                                    EMBL, AF357240; AAK48901.1; -.
MGD; MGI:2153182; Kcnn2
InterPro; IPR004178; CaMBD.
InterPro; IPR00162; K-channel pore.
InterPro; IPR001831; SK channel.
Fran; PF0288; CaMBD.
Fran; PF0288; CaMBD.
Ionic channel; Transmembrane; Ion trans.
                                                                                                                                                                                                                                                                                                                                                                                                                                       POLY-ALA.
POLY-GLY.
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MEDLINE=20568244; Pubmed=10991935;
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62.5%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 574 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Local Similarity
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319 IAAWTVRA 326
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NCBI_TaxID=9606;
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Am. J. Physiol. 281:6964-6973(2001).

Am. J. Physiol. 281:6964-6973(2001).

HYPERPLIALSTON: FORMS A VOLTAGE-INDEPENDENT POTASSIUM CHANNEL ACTIVATED BY INTRACELLULAR CALCTUM. ACTIVATION IS FOLLOWED BY MEMBRANE HYPERPOLARIZATION. THOUGHOUT TO REGULARE NEURONAL EXCITABILITY BY CONTRIBUTING TO THE SLOW COMPONENT OF SYNAPTIC

AFTERHYPERPOLARIZATION. THE CHANNEL IS BLOCKED BY APAMIN (BY
                                                                                                                                                                                                                                                                                          Interpro; IPRO01412; tRNA-synt_I.
Pfam; PR00750; tRNA-synt_Id; 1.
Pfam; PR01465; N-Axg; N-TRNA-SYNTHARG.
TIGREAMS; INTERPRO1465, args; 1.
TIGREAMS; TIGREAMS; TRNA-LIGRE I. 1.
PROSITE; PS00179; AA TRNA-LIGRE I; 1.
AMINOACYI-TRNA synthétase; Protein biosynthesis; Ligase; ATP-binding;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Small conductance calcium-activated potassium channel protein 2 (SK2) KCNN2 OR SK2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                    -!- SUBUNIT: MONOMER (BY SIMILARITY).
-!- SUBCELLULAR LOCATION: Cytoplasmic.
-!- SIMILARITY: BELONGS TO CLASS-I AMINOACYL-TRNA SYNTHETASE FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SUBDNIT: HETERO-OLIGOMER, THE COMPLEX IS COMPOSED OF 4 CHANNEL SUBUNITS EACH OF WHICH BINDS TO A CALMODULIN SUBUNIT WHICH REGULATES THE CHANNEL ACTIVITY THROUGH CALCIUM-BINDING (BY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Buteleostomi,
Mammalia, Butheria, Rodentia, Sciurognathi, Muridae, Musinae, Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -1- SUBCELLULAR LOCATION: INTEGRAL MEMBRANE PROTEIN.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 60.7%; Score 34; DB 1; Length 537; 60.0%; Pred. No. 53;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 099B1C0DC33A39B2 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                             "KMSKS" REGION.
ATP (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        15-JUN-2002 (Rel. 41, Created)
15-JUN-2002 (Rel. 41, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        574 AA.
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                                                                                                                                                                                                                                                                                                                                                                                                                                           "HIGH" REGION
                                                                                                                                                                                                                                        EMBL; AE000027; AAB95934.1; -.
InterPro; IPR001278; Arg_tRNA-synt_1c.
InterPro; IPR005148; N.
      diphosphate + L-arginyl-tRNA(Arg)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 537 AA; 62120 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                             123
369
368
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Matches 6; Conserv
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54 AQOIAAWLLK 63
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SEQUENCE FROM N.A.
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P58390;
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Nature 410:1120-1124(2001).

-I- FUNCTION: FORMS A VOLTAGE-INDEPENDENT POTASSIUM CHANNEL ACTIVATED BY INTRACELLULAR CALCIUM. ACTIVATION IS FOLLOWED BY MEMBRANE HYDRACELLULAR CALCIUM. ACTIVATION IS FOLLOWED BY MEMBRANE HYDRACELLULAR CALCIUM. ACTIVATION IS FOLLOWED BY ACTIVITY BY CONTRIBUTING TO THE SLOW COMPONENT OF SYNAPTIC AFTERHYBRPOLARIZATION. THE CHANNEL IS BLOCKED BY APAMIN.

-I- SUBUNIT: HETERO-OLIGOMER. THE COMPLEX IS COMPOSED OF 4 CHANNEL SUBUNITS EACH OF WHICH BINDS TO A CALMODULIN SUBUNIT WHICH REGULARIZE THE CHANNEL ACTIVITY THROUGH CALCIUM-BINDING.

-I- SUBCELLULAR LOCATION: INTEGRAL MEMBRANE PROTEIN.

-I- TISSUE SPECIFCITY: BRAIN.
                                      MEDLINE=98445000; PubMed=9774106;
Xia X.M., Fakler B., Rivard A.F., Wayman G., Johnson-Pais T.,
Keen J.E., Ishii T., Hirschberg B., Bond C.T., Lutsenko S., Maylie J.,
                                                                                           "Mechanism of calcium gating in small-conductance calcium-activated potassium channels.";
                                                                                                                                              X-RAY CRYSTALLOGRAPHY (1.6 ANGSTROMS) OF 395-490 WITH CALMODULIN
                                                                                                                                                        MEDLINE=21223356, PubMed=11323678;
Schumacher M.A., Rivard A.F., Bachinger H.P., Adelman J.P.;
"Structure of the gating domain of a Ca2+-activated K+ channel
complexed with Ca2+/calmodulin.";
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62.5%;
    Science 273:1709-1714(1996).
                             INTERACTION WITH CALMODULIN
                                                                                                                     Nature 395:503-507(1998).
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56
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1103
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Best Local Similarity
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                                                                              Adelman J.P.
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ID YK81 MYCTU
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                                                                     This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EWBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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15-JUN-2002 (Rel. 41, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
Small conductance calcium-activated potassium channel protein 2 (SK2).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Rattus norvegicus (Rat).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
Mammalia; Butheria; Rođentia; Sciurognathi; Muridae; Murinae; Rattus.
                                                                                                                                                                                                                                                                                                                                                                                          (PORE-FORMING) (POTENTIAL)
                                   TISSUE SPECIFICITY: WIDELY EXPRESSED. SIMILARITY: BELONGS TO THE KCNN PAMILY OF POTASSIUM CHANNELS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STRAIN-Sprague-Dawley; TISSUE-Brain; MEDLINE-96376602; PubMed-8781233; Koehler M., Hirschberg B., Bond C.T., Kinzie J.M., Marrion N.V., Maylie J., Adelman J.P.; "Small-conductance, calcium-activated potassium channels from mammalian brain.";
                                                                                                                                                                                                                                                                                                                                                                                                    SEGMENT S6 (POTENTIAL).
CALMODULIN-BINDING (BY SIMILARITY).
POLY-GLY.
                                                                                                                                                                                                                                                                                                                Calmodulin-binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ..
0
REGULATES THE CHANNEL ACTIVITY THROUGH CALCIUM-BINDING (BY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 34; DB 1; Length 579;
Pred. No. 57;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   B1DAE3513C106182 CRC64;
                                                                                                                                                                                                                                                                                                                                        (POTENTIAL).
(POTENTIAL).
(POTENTIAL).
(POTENTIAL).
                   SUBCELLULAR LOCATION: INTEGRAL MEMBRANE PROTEIN.
                                                                                                                                                                                                                                                                                                             transport; Calmod
ENT S1 (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          -> AA (IN REF. 2).
-> T (IN REF. 2).
-> R (IN REF. 2).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         580 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3; Mismatches
                                                                                                                                                                                                                                                                                                                                                   $3
$5
$5
$6
$6
                                                                                                                                                                                                                                                                                                                                                                                                                                         POLY-ALA.
POLY-GLY.
POLY-GLY.
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SEGMENT S
SEGMENT S
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                                                                                                                                                                                                                                                                                                                                                                                          SEGMENT
                                                                                                                                                                                                                                           InterPro; IPR004178; CAMBD.
InterPro; IPR001622; K+channel pore.
InterPro; IPR003931; SK_channel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRT;
                                                                                                                                                                            EMBL; AF239613; AAG16728.1; -. EMBL; AF397175; AAK84039.1; -.
                                                                                                                                                                                                                                                                                  Pfam; PF02888; CaMBD; 1.
Pfam; PF03530; SK channel; 1.
Ionic channel; Transmembrane;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     63803 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           60.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        62.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       5; Conservative
                                                                                                                                                                                                                      HGNC: 6291; KCNN2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STANDARD:
                                                                                                                                                                                                         HSSP; P70604; 1G4Y.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   579 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NCBI_TaxID=10116;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               4 VAAWTLKA 11
                                                                                                                                                                                                                                   605879;
                                                                                                                                                                                                                                                                                                                                     TRANSMEM
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       KCN2 RAT
                                                                                                                                                                                                                                                                                                                                                                          TRANSMEM
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE
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                                                                                                                                                                                                                                                                                                                          TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                TRANSMEN
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                                                                                                                                                                                                                    Genew;
MIM; 60
                                                                                                                                                                                                                                                                                                                                                                                                                  DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                            DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                               DOMAIN
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Matches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                          PF03530; SK_channel; 1. channel; Transmembrane; Ion transport; Calmodulin-binding;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DB 1; Length 580;
57;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         POLY-ARG.
F71E0DAF7EEFA8D4 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEGMENT S4 (POTENTIAL)
SEGMENT S5 (POTENTIAL)
SEGMENT H5 (POTENTIAL)
SEGMENT H6 (POTENTIAL)
CALMODULIN-BINDING.
                                                                                                                                                                                                                                                                                                                                                                                              (POTENTIAL) . (POTENTIAL) . (POTENTIAL) .
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Pred, No. 57;
3; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   146 AA.
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SEGMENT S2
SEGMENT S3
SEGMENT S4
SEGMENT S5
SEGMENT S5
SEGMENT S5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 POLY-GLY.
POLY-ALA.
POLY-GLY.
POLY-GLY.
                                                                                                                                                                                EMBL, U69882; AAB09563.1; -.
PDB; 1G4Y; 09-MAY-01.
InterPro; IPR004178; CaMBD.
InterPro; IPR001622; K+channel_pore.
InterPro; IPR003931; SK_channel_
Pfam; PF02888; CaMBD; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRT;
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EMBL; AP003599; BAB76866.1; -.
InterPro; IPR001228; ISPD_synthase.
Imp. PF01128; ISPD, TIGREMS; TIGREM
                                                                                                                                                                                                                                                                     MEDLINE=21595285; PubMed=11759840;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              57.1%; 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mycoplasma genitalium.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Local Similarity
                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               : |||| ||
30 IIAWTLLAA 38
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Complete proteome
SEQUENCE 228 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       4 VAAWTLKAA 12
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                                                                                       ISPD OR ALLS167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Y024 MYCGE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 13
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   원
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A.
STRAIN=CDC 1551 / Oshkosh;
Fleischmann R.D., Alland D., Eisen J.A., Carpenter L., White O.,
Peterson J., DeBoy R., Dodson R., Gwinn M.L., Haft D., Hickey E.,
Kolonay J.F., Nelson W.C., Umayam L.A., Ermolaeva M.D., Salzberg S.L.,
Delcher A., Utterback T., Weidman J., Khouri H., Gill J., Mikula A.,
                                                                                                                                                                                                                                                                                                                                                                                                                                Harris D.,
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                                                                                                                                                                                                                Bacteria, Actinobacteria; Actinobacteria (class); Actinobacteridae; Actinomycetales; Corynebacterineae; Mycobacteriaceae; Mycobacterium.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Whole genome comparison of Mycobacterium tuberculosis clinical and
                                                                                                                                                                                                                                                                                                                                                                                        WEDLINE-895987; PubMed-9634230;
Cole S.T., Brosch R., Parkhill J., Garnier T., Churcher C., Harris Gordon S.Y., Eiglmeir K., Gas S., Barry C.E. III. Tekaia F., Badcock K., Basham D., Brown D., Chillingworth T., Connor R., Davies R., Devlin K., Feltwell T., Gentles S., Hamlin N., Holrow Hornsby T., Jagels K., Krogh A., McLean J., Moule S., Murphy L., Oliver S., Osborne J., Quail M.A., Rajandream M.A., Rogers J., Rutter S., Seeger K., Skelton S., Squares S., Squares R., Sulston J.E., Taylor K., Whitehead S., Barrell B.G.;
"Deciphering the biology of Mycobacterium tuberculosis from the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           laboratory strains.";
Submitted (APR-2001) to the EMBL/GenBank/DDBJ databases.
-!- SUBCELLUIAR LOCATION: Integral membrane protein (Potential).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 .
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Hypothetical protein; Transmembrane; Complete proteome.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         146 AA; 14238 MW; BCA294986F8C9FD2 CRC64;
                          01-OCT-1996 (Rel. 34, Created)
01-OCT-1996 (Rel. 34, Last sequence update)
15-UNN-2002 (Rel. 41, Last annotation update)
Hypothetical protein Rv2081C
RV2081C OR MT243 OR MYCY49.20C.
Mycobacterium tuberculosis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (Rel. 41, Created)
(Rel. 41, Last sequence update)
(Rel. 41, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           228 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      POTENTIAL.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EMBL; Z73966; CAA98193.1; -.
EMBL; AE007063; AAK46425.1; ALT_INIT.
TIGR; MT2143; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Pred.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         complete genome sequence.";
Nature 393:537-544(1998).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            107
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                                                                                                                                                                                                                                                                            NCBI_TaxID=1773;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Q8YLX9;
15-JUN-2002 (
15-JUN-2002 (
15-JUN-2002 (
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ISPD ANASP
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Matches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Kaneko T., Nakamura Y., Wolk C.P., Kuritz T., Sasamoto S.,

Raneko T., Nakamura Y., Wolk C.P., Kuritz T., Sasamoto S.,

Ratanabe A., Iriguchi M., Ishikawa A., Kawashima K., Kimura T.,

Rishida Y., Kohara M., Matsumoto M., Matsumo A., Muraki A.,

Nakazaki N., Shimpo S., Sugimoto M., Takazawa M., Yamada M.,

Yasuda M., Tabata S.,

R. Complete genomic sequence of the filamentous nitrogen-fixing

"Complete genomic sequence of The Complete The Tabababate and The Standard The Tabababate and The Tabababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababatababa
2-C-methyl-D-erythritol 4-phosphate cytidylyltransferase (EC 2.7.7.60) (4-diphosphocytidyl-2C-methyl-D-erythritol synthase) (MEP cytidylyltransferase) (MCT).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A. STAIN-ATCC 33330 / G-37;
STRAINM-ATCC 33330 / G-37;
MEDLINE-96026346; PubMed=7569993;
Fraser C.M., Gocayne J.D., White O., Adams M.D., Clayton R.A.,
Fleischmann R.D., Bult C.J., Kerlaväge A.R., Sutton G., Kelley J.M.,
Fritchman J.L., Weldman J.F., Small K.V., Sandusky M., Fuhrmann J.L.,
Maynen D.T., Utterback T.R., Saudek D.M., Phillips C.A., Merrick J.M.,
Tomb J.-F., Dougherty B.A., Bott K.F., Hu P.-C., Lucier T.S.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
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Transferase; Nucleotidyltransferase; Isoprene biosynthesis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 32; DB 1; Length 228;
Pred. No. 55;
1; Mismatches 2; Indels
                                                                                                                                                                                                                                                                                 Anabaena sp. (strain PCC 7120).
Bacteria; Cyanobacteria; Nostocales; Nostocaceae; Nostoc.
NCBI_TaxID=103690;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 228 AA; 24882 MW; 4755BF62E126AACC CRC64;
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01-FEB-1996 (Rel. 33, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
Probable GTP-binding protein MG024.
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Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         346
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BINDING
ACT SITE
DOMAIN
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                                                                                                                                       This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation. The Buropean Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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STRAIN=CSTBL/6G; TISSUB=cerebellum;

A Rakawa T., Bara A., Shibata K., Konno H., Adachi J., Pukuda S.,

A Arawa W., Pukunishi Y., Konno H., Adachi J., Pukuda S.,

A Aizawa W., Pukunishi Y., Kiyosawa H., Kondo S., Yamanaka I.,

A Aizawa W., Izawa M., Nishi K., Kiyosawa H., Kondo S., Yamanaka I.,

Saito T., Okazaki Y., Gojobori T., Bono H., Kasukawa T., Saito R.,

Radota K., Matsuda H.A., Ashburner M., Barelov S., Caaavant T.,

Radota K., Matsuda H.A., Ashburner M., Beeole G., Quackenbush J.,

Ruehl P., Lewis S., Matsuo Y., Nikaido I., Peeole G., Quackenbush J.,

Schriml L.M., Staubli F., Suzuki R., Tomita M., Magner L., Washio T.,

Bake J., Boffelli D., Bojunga N., Carninci P., de Bonaldo M.F.,

Brownstein M.J., Bult C., Fletcher C., Fujita M., Gariboldi M.,

Brownstein M.J., Bult C., Pletcher C., Fujita M., Gariboldi M.,

Brownstein M.J., Bult C., Pletcher C., Fujita M., Gariboldi M.,

Brownstein M.J., Stan B., Hill D., Hofmann M., Hume D.A., Kamiya M., Lee N.H.,

Iyons P., Marchionni L., Mashima J., Mazzarelli J., Mombaerts P.,

Nordone P., Ringy B., Ringwald M., Rodriguez I., Sakamcto N.,

Sasaki H., Sato K., Schoenbach C., Seya T., Shibata Y., Storch K.-F.,

B., Wynabhaw Boris A., Yoshida K., Hasegawa Y., Kawaji H., Kohtsuki S.,

Haveshiazhi V.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Nature 409:685-690 (2001).
-1- FUNCTION: PHOSPHORYLASE B KINASE CATALYZES THE PHOSPHORYLATION OF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                    -! - SIMILARITY: BELONGS TO THE YCHF FAMILY OF GTP-BINDING PROTEINS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    15-JUN-2002 (Rel. 41, Created)
15-JUN-2002 (Rel. 41, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
15-JUN-2002 (Rel. 41, Last annotation update)
16-JUN-2002 (Rel. 41, Last annotation update)
17-JUN-2002 (Rel. 41, Last annotation update)
18-JUN-2002 (Rel. 41, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Butheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Hayashizaki Y., "Punction of a full-length mouse cDNA collection.",
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    .
0
Peterson S.N., Smith H.O., Hutchison C.A. III, Venter J.C.; "The minimal gene complement of Mycoplasma genitalium."; Science 270:397-403(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       57.1%; Score 32; DB 1; Length 367; 66.7%; Pred. No. 86; 3; Indels:ive 0; Mismatches 3; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NP_BIND 71 75 GTP (POTENTIAL).
SEQUENCE 367 AA; 41198 MW; 98AFCFADDE6C9BDC CRC64;
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                                                                                                                                                                                                                                                                                                                                                                                                                             InterPro; IPR004396; Cons hypoth92.
InterPro; IPR00765; GTP1_0BG.
Pfam, PP01018; GTP1_0BG; 1.
PRINYS; PR00326; GTP10BG; TIGRFAMS; ITGR00092; Cons_hypoth92; 1.
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GTP-binding; Complete proteome
                                                                                                                                                                                                                                                                                                                                                                                EMBL; U39681; AAC71240.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STANDARD;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Local Similarity
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MEDLINES-2112885: PubMed=1370475;
Calalb M.B., Fox D.T., Hanks S.K.;
"Molecular cloning and enzymatic analysis of the rat homolog of 'PhK-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
Mammalia; Butheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
       INCLUDING TROPONIN I. THIS ISOZYME
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PROSITE; PSCO107; PROTEIN KINASE ATP; 1.
PROSITE; PSCO107; PROTEIN KINASE ST; 1.
PROSITE; PSCO101; PROTEIN KINASE DOM; 1.
Glycogen metabolism; Transferase; Serine/threonine-protein kinase; ATP-binding; Calmodulin-binding; Multigene family.
POMAIN 24 291 PROTEIN KINASE.
PROFINEND 30 38 ATP (BY SIMILARITY).
BINDING 53 53 ATP (BY SIMILARITY).
                                                                                                                                       GAMMA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-UUL-1993 (Rel. 26, Created)
01-UUL-1993 (Rel. 26, Last sequence update)
15-UUR-2002 (Rel. 41, Last annotation update)
15-UN-2002 (Rel. 41, Last annotation update)
15-UN-308 (Rel. 41, Last annotation update)
16-UN-308 (Rel. 41, Last annotation update)
17-UN-308 (Rel. 41, Last annotation update)
18-UN-308 (Rel. 41, Last annotation update)
                                                                                                                                -:- SUBUNIT: POLYMER OF 16 CHAINS, FOUR EACH OF ALPHA, BETA, GAMMA AND DELTA. ALPHA AND BETA ARE REQUIATORY CHAINS, GAMMA IS THE CATALTYTIC CHAIN, AND DELTA IS CALMODULIN.
-:- SIMILARITY: BELONGS TO THE SER/THR FAMILY OF PROTEIN KINASES.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
SERINE IN CERTAIN SUBSTRATES, INCLUDING TROPONIN I. THIE
MAY REGULATE GLYCOGENEOLYSIS IN THE TESTIS.
CATALYTIC ACTIVITY: 4 ATP + 2 phosphorylase B = 4 ADP +
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CALMODULIN-BINDING (DOMAIN-N)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DB 1; Length 406;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (BY SIMILARITY).
CALMODULIN-BINDING (DOMAIN-C)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2; Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 95;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      BY SIMILARITY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MGD; MGI:1916211; Phkg2.
InterPro: 1PR000719; Buk pkinase.
InterPro: 1PR002291; Phosph kin gamma.
InterPro: 1PR002290; Ser thr pkinase.
InterPro: 1PR001245; Tyr pkinase.
Pfam; PR0069; pkinase.
Pfam; PR00169; pkinase.
PRINTS; PR01049; PHOSPHBKNASE.
ProDom; PD000001; Euk pkinase; 1.
SMART; SM00220; S TKC; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 32;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EMBL; AK005277; BAB23926.1; -.
HSSP; P00518; 1PHK.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           406 AA; 46519 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             57.1%;
66.7%;
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                                                                                                      phosphorylase A.
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R HSSP; POOS18; 1PHX.

R InterPro; 1PR002291; Phosph kin_gamma.

R ProDom; Pr00069; PhosPHRNASE.

R ProDom; Pr000091; PR0191; Buk pkinase; 1.

R PROSITE; PS001007; PROTEIN KINASE ATP; 1.

R PROSITE; PS001017; PROTEIN KINASE DOM; 1.

R PROSITE; PS001019; PROTEIN KINASE; SETINE/threonine-protein kinase; PROTEIN KINASE.

T DOMAIN PRINCE: 291 ATP (BY SIMILARITY).
gamma T,' an isoform of phosphorylase kinase catalytic subunit.";
J. Biol. Chem. 267:1455-1463(1992).
-!- FUNCTION: PHOSPHORYLASE B KINASE CATALYZES THE PHOSPHORYLATION OF SERINE IN CERTAIN SUBSTRATES, INCLUDING TROPONIN I. THIS ISOZYME MAY REGULATE GLYCGGENEOLYSIS IN THE TESTIS.
-!- CATALYTIC ACTIVITY: 4 ATP + 2 phosphorylase B = 4 ADP + phosphorylase A.
-!- SUBUNIT: POLYMER OF 16 CHAINS, FOUR EACH OF ALPHA, BETA, GAWMA, AND DELTA A. BLERGULATORY CHAINS, GAWMA, CATALYTIC CHAIN, AND DELTA ALE REGULATORY CHAINS, GAWMA IS THE CATALYTIC CHAIN, AND DELTA ALE REGULATORY.
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57.1%; Score 32; DB 1; Length 406;
Best Local Similarity 66.7%; Pred. No. 95;
Matches 6; Conservative 1; Mismatches 2; Indels
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Oy 4 VAAWTLKAA 12 | | | | | | | Db 310 VAVWTILAA 318 Search completed: January 29, 2003, 10:45:05 Job time : 6.90909 secs

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January 29, 2003, 10:40:47; Search time 20.8 Seconds (without alignments) 128.779 Million cell updates/sec
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GenCore version 5.1.3
Copyright (c) 1993 - 2003 Compugen Ltd.
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Listing first 45 summaries
                                                     OM protein - protein search, using sw model
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ч ч ч ч ч ч ч ч ч ч ч ч ч ч п п п п п п		1 19493 19493	1998 1998 2001 Otei	Dorine herpesvirus type Viruses; dsDNA viruses, Alphaherpesvirinae; Var NCBI TaxID=31518;	SEQUENCE FROM N.A STRAILS—9531343; VICek C., Benes V Letchworth G.J., Nucleotide sequence in the UL21 to UL4 go Virology 210:100-121 (2) SEQUENCE FROM N.A STRAIN-JURA, SCHWYZER M., Pace	LOWETY D.E., SIMEN COMPLETE DIA SEQUING SUBMITTED (SEP-199 EMBL, AJ004801). CA. InterPro, IPR00078 Pfam, PP01528; Herr PRINTS; PR00333; H. SEQUENCE 438 AA;
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                                                                                                                                        Thermoanaerobacter tengcongensis.
Bacteria; Firmicutes; Bacillus/Clostridium group; Clostridia;
Thermoanaerobacteriales; Thermoanaerobacteriaceae; Thermoanaerobacter.
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STRAIN=MB4T / JCM11007;

MEDLINE=Z1992B16; PubMed=11997336;

MEDLINE=Z1992B16; PubMed=11997336;

Bao Q. Tian Y., Li W., Xu Z., Xuan Z., Hu S., Dong W., Yang J.,

Chen Y., Xue Y., Li W., Xu Z., Yuang L., Dong X., Ma Y., Ling L.,

Tan H., Chen R., Wang J., Yu J., Yang H.;

"A complete sequence of T. tengcongensis genome.";

EMBL; AE013140; AAM25084.1; -.
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                                                                                                                                                                                                                                                                                          370 AA; 40695 MW; 489870521F84215A CRC64;
                                                                                              01.JUN-2002 (TrEMBLrel. 21, Greated)
01.JUN-2002 (TrEMBLrel. 21, Last sequence update)
01.JUN-2002 (TrEMBLrel. 21, Last annotation update)
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KEFB OR TTE1901.
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Best Local Similarity 77.0x
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141 LAAWTLQAA 149
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MEDLINE-9804043 PubMed-9738475;
MELCHAR H.-P. Clayton R.A., Tomb J.-F., White O., Nelson K.E.,
Ketchum K.A., Dodgon R.J., Gwinn M., Hickey E.K., Peterson J.D.,
Richardson D.L., Kerlavage A.R., Graham D.E., Kyrpides N.C.,
Fleischmann R.D., Quackenbush J., Lee N.H., Sutton G.C., Gill S.,
Kirkness E.F., Dougherty B.A., McKenney K., Adams M.D., Loftus B.,
Kirkness E.F., Dougherty B.A., McKenney K., Adams M.D., Loftus B.,
Overbeek R., Gocapus J.D., Weidman J.F., McDonald L., Utterback T.,
Cotton M.D., Spriggs T., Aritach P., Kaine B.P., Sykes S.M.,
Sadow P.W., D'Andrea K.P., Rowman C., Fujii C., Garland S.A.,
Mason T.W., Olsen G.J., Fraser C.M., Smith H.O., Woese C.R.,
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01-NOV-1999 (TrEMBLrel. 12, Last sequence update)
01-UJN-2002 (TrEMBLrel. 21, Last annotation update)
Hypothetical 25: Mba protein.
Sorghum bicolor (Sorghum) (Sorghum vulgare).
Sorghum bicolor (Sorghum) (Sorghum vulgare).
Sprantophyta; Waridiplantee; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae; PACC clade;
Panicoidaes; Andropogoneae; Sorghum.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        "The complete genome sequence of the hyperthermophilic, sulphate-
reducing archaeon Archaeoglobus fulgidus.";
Nature 390:384-370(1997).
EMBL; AB001339; AAB90312.1; -.
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"Retrotransposable elements of Sorghum bicolor.";
Submitted (DEC-1998) to the EMBL/GenBank/DDBJ databases.
BMBL, AFI4171, AAD27569.1;
Interpro; IPR001454; Hlgnase/hydrlase.
Interpro; IPR001459; SerB.
Fram; PR00702; Hydrolase; 1.
TIGREMMs; TIGR00338; serB; 1.
Hypothetical protein.
SEQUENCE 236 AA; 25334 MW; A5C97418009CAFFA CRC64;
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ROSGITE; P800678; WD REPEATS 1; UNKNOWN 1.

Hypothetical protein; Complete proteome.

SEQUENCE 1036 AA; 112425 MW; CA9FCE0932F9899F CRC64;
                                                                                                                                                                                     Archaea; Euryarcheeta; Archaeoglobi; Archaeoglobales;
Archaeoglobaceae; Archaeoglobus.
NCBL_TaxID=2234;
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Last annotation update)
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SERAILNE-20437337, PADAG-10984043;
STRAILNE-20437337, PURMC=10984043;
Stover C.K., Pham X.-Q.T., Erwin A.L., Mizoguchi S.D., Warrener P.,
Stover C.K., Patinkman F.S.L., Huthragic W.O., Kowallik D.J., Lagrou M.
Garber R.L., Goltry L., Tolentino E., Westbrock Wadman S., Yuan Y.,
Brody L.L., Coulter S.N., Folger K.R., Kas A., Larbig K.L. Lim R.M.,
Smith K.A., Spencer D.H., Wong G.K.*S., Wu Z., Paulsen I.T.,
Reizer J., Saier M.H., Hancock R.E.W., Lory S., Olson M.V.,
"Complete genome sequence of Pseudomonas aeruginosa PAOI, an
                                                                                                                                                                              "Genome sequence of the hyperthermophilic crenarchaeon Pyrobaculum aerophilum.";
Proc. Natl. Acad. Sci. U.S.A. 99:984-989 (2002).
EMBL, AE009991, AAL63097.1; -.
Hypothetical protein; Complete proteome.
SEQUENCE 261 AA; 29211 MW; C11EF782AFC53851 CRC64;
                                                                                 PubMed=11792869;
Fitz-Gibbon S.T., Ladner H., Kim U.-J., Stetter K.O., Simon M.I.,
Miller J.H.;
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Bacteria; Proteobacteria; gamma subdivision; Pseudomonadaceae;
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Pred. No. 1.2e+02;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             01-MAR-2001 (TrEMBLrel. 16, Created)
01-MAR-2001 (TrEMBLrel. 16, Last sequence update)
01-MAR-2002 (TrEMBLrel. 21, Last annotation update)
Probable sensor/response regulator hybrid.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2; Mismatches
                                              STRAIN=IM2 / ATCC 51768 / DSM 7523;
                                                                                                                                                                                                                                                                                                                                                                                                                                      62.5%;
58.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        7; Conservative
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118 AKGDPAWTLRSA 129
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Best Local Similarity
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SEQUENCE 942 AA;
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Matches
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                                                  SOW RET REASON SOW KEN
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                                                                                                                Gaps
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MEDLINE-20033820; PubMed=10564755;
Latvala-Kilby S., Lehro K.;
"The complete nucleotide sequence of RNA2 of blackcurrant reversion
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Viruses; ssRNA positive-strand viruses, no DNA stage, Comoviridae,
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                                  64.3%; Score 36; DB 10; Length 236; 70.0%; Pred. No. 69; ive 0; Mismatches 3; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      P SEQUENCE FROM N.A.

Latvala-Kilby S., Lehto K.;

R. Latvala-Kilby S., Lehto K.;

R. Submitted (OCT-2000) to the EMBL/GenBank/DDBJ databases.

RRBL: AR020051; AAD09239.2; --

DR InterPro; IPR005305; Nepo_coat.

DR Pfam; PR03391; Nepo_coat.

DR Pfam; PR03381; Nepo_coat.

DR Pfam; PR03889; Nepo_coat.

I DR Pfam; PR03889; Nepo_coat.

I DR Pfam; PR03889; Nepo_coat.

I TOWN N; 350C5BB30938263B CRC64;
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Archaea; Crenarchaeoca; Thermoprotei; Thermoproteales;
Thermoproteaceae; Pyrobaculum.
NCBL_TAXID=13773;
                                                                                                                                                                                                                                                                                                                                                                                                                                                      O9TK98;
01-MAY-1999 (TrEMBLrel. 10, Created)
01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-UNN-2002 (TrEMBLrel. 21, Last annotation update)
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01-MAR-2002 (TrEMBLrel. 20, Last sequence update)
01-MAR-2002 (TrEMBLrel. 20, Last annotation update)
Hypothetical protein PAE0883.
                                                                                                                                                                                                                                                                                                                                                                                                                               PRT; 1626 AA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Polyprotein.
Blackcurrant reversion virus.
Query Macch
Best Local Similarity 70.00
"... 7; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       nepovirus.";
Virus Res. 65:87-92(1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Virus Res. 53:1-11(1998).
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                                                                                                                                                                                                                                                                                                                                                                                                                           PRELIMINARY;
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                                                                                                                                                                                                                                            39 KAVAEWTAKA 48
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SEQUENCE FROM N.A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Nepovirus.
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0997K9
AC 0997K
AC 097K9
DT 01-4M
COC Neion

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ID Q8
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DT 011
DT 011
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STRAIN=ATCC 19089 / CB15;
STRAIN=ATCC 19089 / CB15;
MIDELINE-21173698; PubMed=11259647;
Miernan W.C., Feldblyum T.V., Laub M.T., Paulsen I.T., Nelson K.E.,
Eisen J., Heidelberg J.F., Alley M.R.K., Ohta N., Maddock J.R.,
Debocka I., Nelson W.C., Newton A., Stephens C., Phadke N.D., Ely B.,
Deboy R.T., Dodson R.J., Durkin A.S., Gwinn M.L., Haft D.H.,
Kolonay J.F., Smit J., Craven M.B., Khouri H., Shetty J., Berry K.,
Utterback T., Tram K., Wolf A., Vamathevan J., Ermolaeva M., White O.,
Salzberg S.L., Venter J.C., Shapiro L., Fraser C.M.;
"Complete genome sequence of Caulobacter crescentus.";
Proc. Natl. Acad. Sci. U.S.A. 98:4136-4141(2001).
                                                                                                                                                                                                                                                                                                       Gaps
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Bacteria; Firmicutes; Bacillus/Clostridium group; Bacillales;
                                                                                                                                                                                                                                                               Length 1545;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 34; DB 16; Length 102;
Pred. No. 67;
1; Mismatches 4; Indels
                                                                                                                                                                                                                                                               62.5%; Score 35; DB 16; Length 15
77.8%; Pred. No. 7.6e+02;
Live 0; Mismatches 2; Indels
                                                                                                                                                                                                    1514 1514 G -> V.
1545 AA; 168767 MW; 4E3F3B528D91DECD CRC64;
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Hypothetical Totoein; Complete protecome.
BSpOtence 102 AA; 10769 MW; AC46D2B7BE8CBF14 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               01-JUN-2001 (TrEMBLrel. 17, Last sequence update) 01-MAR-2002 (TrEMBLrel. 20, Last annotation update) Hypothetical protein CC3466.
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Last annotation update)
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01-MAY-1999 (TrEMBLrel. 10, Last sequ
01-DEC-2001 (TrEMBLrel. 19, Last anno
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es 7; Conservative 1
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                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Caulobacter crescentus
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                                                                                                                                                                                                                                                                                 Local Similarity
nes 7; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NCBI_TaxID=155892;
                                                                                                                                                                                                                                                                                                                                                  2 KXVAAWTLK 10
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                                                                                                                                                                                                                               SEQUENCE
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Q9A2U0
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MEDLINE-98422474; PubMed-9748454;
Hu P., Elliott J., McCready P., Skowronski E., Garnes J.,
Kobayashi A., Brubaker R.R., Garcia E.;
"Structural organization of virulence-associated plasmids of Yersinia
pestis.";
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STRAIN=KIMIO+; PLASMID=PMT1 (PMT-1);
MEDLINE=99043889; PubMed=8926548;
Lindler L.E., Plano G.V., Burland V., Mayhew G.F., Blattner F.R.;
"Complete DNA sequence and detailed analysis of the Yersinia pestis
KIM5 plasmid encoding murine toxin and capsular antigen.";
Infect. Immun. 66:5731-5742(1998).
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STRAINE-20-92 / BIOVAR ORIENTALIS; PLASMID=FWT1 (PMT-1);
MEDLINE-21470413; PubMed=11586360;
Parkhill J., Wren B.W., Thomson N.R., Titball R.W., Holden M.T.G.,
Prentice M.B., Sebaihia M., James K.D., Churcher C., Mungall K.L.,
Prentice M.B., Sebaihia M., James K.D., Churcher C., Mungall K.L.,
Paker S., Bashama D., Bentley S.D., Brooks K., Cerdeno-Taraga A.M.,
Chillingworth T., Cronin A., Davies R.M., Davis P., Dougan G.,
Feltwell T., Hamlin N., Holroyd S., Jagels K., Karlyshev A.V.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Plasmid pMT1 (pMT-1).
Bacteria; Proteobacteria; gamma subdivision; Enterobacteriaceae;
                                                                                                                                                                                                                                                                                          Bacteria; Proteobacteria; gamma subdivision; Enterobacteriaceae;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         J. Bacteriol. 180:5192-5202(1998).
-!- SIMILARITY: CONTAINS 2 FIBRONECTIN TYPE III-LIKE DOWAINS.
EMBEL; AF053947; AAC1322.1; -
INTERFO: IRR003961; FN_III.
FPGOM, PF00041; Fn3; 2.
Hydrolase; Plasmid.
SEQUENCE 192 AA; 162678 MW; 3A08640BC15A9E96 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     62.5%; Score 35; DB 2; Length 1492; 77.8%; Pred. No. 7.38+02; cive 0; Mismatches 2; Indels
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01-MAY-1999 (TrEMBLrel. 10, Last sequence update)
01-MAR-2002 (TrEMBLrel. 20, Last annotation update)
Lambda host specificity protein J.
Y1049 OR YEMT1.06C.
                                                                                                                                                                      01-AUG-1998 (TrEMBLrel. 07, Created)
01-AUG-1998 (TrEMBLrel. 07, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
Phage lambda host specific protein J.
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                                                                                                                                 PRT; 1492 AA.
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                                765 AKPVAGYTLKA 775
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Plasmid pMT1.
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SEQUENCE FROM N.A
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QBUEWO;
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A Gapela D., Barloy-Hubler F., Gouzy J., Bothe G., Ampe F., Batut J.,
A Gapela D., Barloy-Hubler F., Gouzy J., Bothe G., Ampe F., Batut J.,
Boistard P., Becker A., Bouttry M., Cadieu E., Dreano S., Gloux S.,
Godrie T., Goffeau A., Kahn D., Kiss E., Lelaure V., Masuy D.,
A Remard C., Thebault P., Vandenbol M., Weidner S., Galibert F.;
"Analysis of the chromosome sequence of the legume symbiont
I. Proc. Natl. Acad. Sci. U.S.A. 98:9877-9882(2001).
R RNBL, AL51785; CAC45415.1; -
R InterPro; IPR001453; MocF biosynth.
R ProDom; PD002460; MocF biosynth; 1.
R ProDom; PS00078; MocF biosynth; 1.
R TIGRFAMS; TIGR0177; Milyb synt; 1.
R PROSITE; PS01078; MOCF_BIOSYNTHESIS_1; UNKNOWN_1.
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                                                                                            STRAIN=ATCC 11561, mbMed=9882674, mbDints-9910223; PubMed=9882674, McDoints-9910223; PubMed=9882674, McCool G.J., Cannon M.C., "Polyhydroxyalkanoate inclusion body-associated proteins and coding region in Bacillus megaterium.", J. Bacteriol. 181:585-592(1999).
                                                                                                                                                                                                                                                                                                                           MCCOOl G.J., Cannon M.C.;
"Phac and PhaR Are Required for Polyhydroxyalkanoic Acid Synthase Activity in Bacillus megaterium.";
J. Bacteriol. 183:4235-4243(2001).
EMBL; AP109909; AAD05256.1;
SEQUENCE 170 AA: 19906 MW; 210A3408424A2B4F CRC64;
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01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
01-DEC-2001 (TrEMBLrel. 21, Last sequence update)
Probable molybdeaum cofactor biosynthesis protein B.
MOAB DR ROOB43 OR SMC00863.
Rhizobium meliloti (Sinorhizobium meliloti).
Bacteria, Proteobacteria, alpha subdivision; Rhizobiaceae group;
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                                                                                                                                                                                                                                                                                     STRAIN=ATCC 11561;
MEDLINE=21311749; Pubmed=11418564;
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Query Match
Best Local Similarity 60.00,
Best Local Similarity 60.00,
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Bacillaceae, Bacillus.
NCBI_TaxID=1404;
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29 KQIEQWTLKA 38
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AC 092RM2
DT 01-DEC-2
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MEDLINE=1608550; PubMed=11743193; Monks D.E., Kitajima J.P., Wood D.W., Setubal J.C., Kaul R., Monks D.E., Kitajima J.P., Okura V.K., Zhou Y., Chen L., Wood G.E., Almeida N.F. Jr., Woo L., Chen Y., Paulsen I.T., Eisen J.A., Karp P.D., Bovee D. Sr., Clandmanning J., Deatherage G., Gillet W., Grant C., Kutyavin T., Levy R., Li M.-J., McClelland B., Palmieri A., Kaymond C., Rouse G., Saenphimmachak C., Wu Z., Romero P., Gordon D., Zhang S., Yoo H., Tao Y., Biddle P., Jung M., Krespan W., Perry M., Gordon-Kamm B., Liao L., Kim S., Hendrick C., Zhao Z.-Y., Dolan M., Chumley F., Tingey S.V., Tomb J.-F., Gordon M.P., Olson M.V.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDLINE=21608551; PubMed=11743194; Goodner B. Hikhle G., Gattung S., Miller N., Blanchard M., Qurollo B., Goldman B.S., Cao Y., Askenazi M., Halling C., Mullin L., Houmiel K., Gordon J., Vandin M., Iartchouk O., Epp A., Liu F., Houmiel K., Gordon J., Vandin M., Iartchouk O., Epp A., Liu F., Houmiel K., Gordon J., Vandin M., Iartchouk O., Epp A., Liu F., Flangan C., Allinger M., Doughty D., Scott C., Lappas C., Markelz B., Flangan C., Crowell C., Gurson J., Lomo C., Sear C., Strub G., Cielo C., Slater S., "Genome sequence of the plant pathogen and biotechnology agent Agrobacterium tumefaciens CSB.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               \textbf{Nester} \ \textbf{E.W.}, \\ \textbf{"The genome of the natural genetic engineer} \ \textbf{Agrobacterium tumefaciens}
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                                                                              01-JUN-2002 (TrEMBLrel. 21, Last sequence update)
01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
ATU164 OR AGR C. 3031.
Agrobacterium tumefaciens (strain CS8 / ATCC 33970).
Bacteria, Proteobacteria; alpha subdivision; Rhizobiaceae group;
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Rhizobiaceae; Sinorhizobium.
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Pred. No. 1.4e+02;
3; Mismatches 2; Indels
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201 AA; 21493 MW; 140169351A2ACC3C CRC64;
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01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
Probable Arg 2 arginase (EC 3.5.3.1).
ARG12 OR RA0941 OR SMA1711.
Rhizobium meliloti (Sinorhizobium meliloti).
   201 AA
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                                                       01-JUN-2002 (TrEMBLrel. 21, Created)
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EMBL, ABC09211; AAL4245.1.; -
EMBL, AE008086; AAR87420.1.; -
Hypothetical protein; Complete
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PRELIMINARY;
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NCBI_TaxID=176299;
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191 REIVAWTLKS 200
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Matches 5; Conserv
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RA Barnett M.J., Fisher R.F., Jones T., Komp C., Abola A.P.,
RA Gurly-Hubler F., Boweer L., Capela D., Galibert F., Gouzy J.,
RA Gurlal M., Hong A., Huizar L., Hyman R.W., Kahn M.L.,
RA Alman S., Keating D.H., Pahm C., Beck M.C., Surzycki R., Wells D.H.,
RA Yeh K.-C., Davis R.W., Federspiel N.A., Long S.R.;
RT "Nuclocide sequence and predicted functions of the entire
RT Sinorhizobium mellioti pSymh megalisamid.";
R. Proc. Natl. Acad. Sci. U.S.A. 98:9883-9888(2001).
B. EMBL; ABOO7280; AAK65599.1;
B. RinerPro; IPR000287; Arginase.
B. Pfam; PF00491; arginase: 1.
KW Hydrolase; Plasmid; Complete proteome.
SQ SEQUENCE 297 AA; 31555 MW; E2D4F0F04E5A42B9 CRC64;
Guery Match
Go.7%; Score 34; DB 16; Length 297;
Best Local Similarity 50.0%; Pred. No. 2e+02;
Matches 6; Conservative 3; Mismatches 3; Indels 0; Gaps 0;
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Search completed: January 29, 2003, 10:46:42 Job time: 22.8 secs

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376, App 374, App 25, Appli 4, Appli 4, Appli 4, Appli 4, Appli 13, Appli 13, Appli 4, Appli 13, Appli

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Sequence 4
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Sequence 4
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Sequence 4
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APPLICANT: Sette, Alessandro
APPLICANT: Sette, Pederico
APPLICANT: Gaeta, Federico
APPLICANT: Sidney Howard M.
APPLICANT: Sidney John
APPLICANT: Alexander, Jeffrey L.
TITLE OF INVENTION: Alexander Deptides
NUMBER OF SEQUENCES: 29
CORRESPONDERCE ANDRESS:
ADDRESSEE: Townesend and Townsend and Crew LLP
STREET: Two Embarcadero Center, Eighth Floor
CITY: San Francisco
STATE: California
                                                                                    Sequence
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ZID. 94111-3834

COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
COMPUTER: PatentIn Release #1.0, Version #1.30
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/305,871A
FILING DATE: 14-SEP-1994
CLASSIFICATION: 424
PRIOR APPLICATION DATA:
APPLICATION UNDBER: US 08/121,101
FILING DATE: 14-SEP-193
ATTORNEY/AGENT INCRMATION:
D8 1;
2e+05;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NAME: Bastian, Kevin L.
REGISTRATION NUMBER: 34,774
REFERENCE/DOCKET NUMBER: 14137-0062-10
TELECOMUNICATION INFORMATION:
TELEPHONE: (415) 576-0200
INFORMATION FOR SEQ ID NO: 17:
SEQUENCE CHARACTERISTICS:
LENGTH: 4 amino acids
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Pred. No.
                                                                                                                                                                                                                                                                                                 ; Sequence 17, Application US/08305871A; Patent No. 5736142; GENERAL INFORMATION:
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Best Local Similarity
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  Sequence 17, Appl
Sequence 1, Appli
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Appl
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                                                                           January 29, 2003, 10:42:37; Search time 10.1818 Seconds (without alignments) 40.457 Million cell updates/sec
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.: /cgn2_6/ptodata/liaa/5A_COMB.pep:*
.: /cgn2_6/ptodata/l/iaa/6A_COMB.pep:*
.: /cgn2_6/ptodata/l/iaa/6A_COMB.pep:*
.: /cgn2_6/ptodata/l/iaa/6A_COMB.pep:*
.: /cgn2_6/ptodata/l/iaa/PcTUS_COMB.pep:*
.: /cgn2_6/ptodata/l/iaa/PcTUS_COMB.pep:*
.: /cgn2_6/ptodata/l/iaa/PcTUS_COMB.pep:*
         GenCore version 5.1.3
Copyright (c) 1993 - 2003 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-08-788-822A-1

US-08-788-822A-2

US-08-305-871A-22

US-08-305-871A-22

US-08-788-822A-26

US-08-788-822A-37

US-08-788-822A-37

US-08-788-822A-37

US-08-78-822A-17

US-08-75-257A-17

US-09-534-639-15

US-09-534-639-16

US-09-534-639-16

US-09-534-639-16

US-09-534-639-16

US-09-433-0438-85

US-08-858-585-7

US-08-858-585-7

US-08-858-585-7

US-08-858-585-7

US-08-858-585-7

US-08-858-585-7

US-08-788-622B-7

US-08-788-621B-7

US-08-788-621B-7

US-08-788-621B-7

US-08-936-1165-7
                                                                                                                                                                                                                                 Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                            262574 seqs, 29422922 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SUMMARIES
                                                                                                                                                                                                                                                                                            Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                       protein search, using sw model
                                                                                                                                                                        BLOSUM62
Gapop 10.0 , Gapext 0.5
                                                                                                                                      35
1 XXXXXXWTLKXXXX 14
                                                                                                                                                                                                                                                         Minimum DB seq length: 0
Maximum DB seq length: 200000000
                                                                                                                           US-09-707-738-24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query
Match Length
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                                                                                                                                                                         Scoring table:
                                                                                                                           Title:
Perfect score:
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                                                      OM protein
                                                                                                                                                  Sequence:
                                                                                                                                                                                                            Searched:
                                                                                                                                                                                                                                                                                                                                             Database
                                                                             Run on:
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No.
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71.4%; Score 25; DB 4; Length 12;
Best Local Similarity 100.0%; Pred. No. 31;
Matches 4; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NAME/KEY: Modified-site
LOCATION: 3
OTHER INFORMATION: /product= "OTHER"
OTHER INFORMATION: /note= "Xaa = cyclohexylalanine"
                                                                                                                                                  COUNTRY: USA
ZIP: 105A
ZIP: 94111-3834
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IRN PC compatible
OPERATING SYSTEM: PC-COMBALIBLE
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION WHERE: US /08/788,822A
FILING DATE: 23-JAN-1997
CLASSIFICATION HYBER: US 60/010,510
FILING DATE: 24-JAN-1996
ATTORNEY/AGRAT INCRMATION:
NAME: Bastian, Kevin L.
REGISTRATION NUMBER: 34,774
RELEPHONE: (415) 576-0200
TELEPHONE: (415) 576-0300
INFORMATION FOR SEQ ID NO: 21:
SEQUENCE CHARACTERISTICS:
               ADDRESSEE: Townsend and Townsend and Crew LLP STREET: Two Embarcadero Center, Eighth Floor CITY: San Francisco STATE: California
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LOCATION: 12
COTHER INFORMATION: /product= "OTHER"
COTHER INFORMATION: /note= "Xaa = alaninamide'
US-08-788-822A-21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FEATURE:
NAME/KEY: Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LENGTH: 12 amino acids
TYPE: amino acid
STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TOPOLOGY: linear
MOLECULE TYPE: peptide
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   7 WTLK 10
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US-08-305-871A-22
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Sequence 1, Application US/08788822A

Patent No. 6413935

GENERAL INFORMATION:

APPLICANT: DeFrees, Shawn

APPLICANT: Sette, Alessandro

CORRESPONDENCES: 30

CORRESPONDENCES: 30

CORRESPONDENCES: Application of Inmune Response Against

CITY: San Francisco

CITY: San Francisco

CITY: San Francisco

CITY: San Francisco

COUNTRY: USA

ZIP: 9411-3834

COMPUTER: Floppy disk

COMPUTER: Floppy disk

COMPUTER: Floppy Sisk

COMPUTER: Ploppy Misk

COMPUTER:
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100.0%; Pred. No. 2e+05;
cive 0; Mismatches 0; Indels
      Indels
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APPLICATION DATA:
APPLICATION NUMBER: US/08/788,822A
ELING DATE: 23.-JAN-1997
CLASSIFICATION NUMBER: US 60/010,510
APPLICATION NUMBER: US 60/010,510
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NAME: Bastian, Kevin L.
REGISTRATION NUMBER: 34,774
REPERENCS/DOCKET NUMBER: 014137-009210US
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 576-0300
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 4 amino acids
         Mismatches
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Best Local Similarity 100.
Matches 4; Conservative
         4; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TOPOLOGY: linear
MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TYPE: amino acid STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  7 WTLK 10
                                                                7 WTLK 10
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US-08-788-822A-1
            Matches
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US-08-788-822A-26

Sequence 26, Application US/08788822A

Patent No. 641335

GENERAL INFORMATION:

APPLICANT: Alexander, Jeffrey L.

APPLICANT: Sette, Alessandro

TITLE OF INVENTION: Induction of Immune Response Against

TITLE OF INVENTION: Desired Determinants

NUMBER OF SEQUENCES: 30

CORRESPONDENCE ADDRESS:

ADDRESSEE: Two Embarcadero Center, Eighth Floor

CITY: San Francisco

STATE: California
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match 71.4%; Score 25; DB 1; Length 13; Best Local Similarity 100.0%; Pred. No. 33; Matches 4; Conservative 0; Mismatches 0; Indels
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ZIF: 94111-3834
ZIF: 94111-3834
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUBER: US/08/788,822A
FILING DATE: 23-JAN-1997
CLASSIFICATION NUMBER: US 60/010,510
FILING DATE: 24-JAN-1996
ATTORNEY/AGENT INCORMATION:
NAME: Baseian, Kevin L.
REGISTRATION NUMBER: 34,774
REGISTRATION NUMBER: 34,774
REFERENCE/DOCKET NUMBER: 014137-009210US
TELECHOMOUNICATION INFORMATION:
TELECHOMOUNICATION INFORMATION:
TELECHOMOUNICATION INFORMATION:
TELECHOMOUNICATION INFORMATION:
TELECHOMOUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NAME/KEY: Modified-site
| LOCATION: 1..13 |
| OTHER INFORMATION: /note= "Peptide wherein X is |
| OTHER INFORMATION: tyrosine or phenylalanine." |
| US-08-305-871A-23
                                           FILING DATE: 14-SEP-1993
ATTORNEY/AGENT INFORMATION:
NAME: Bastian, Kevin L.
REGISTRATION NUMBER: 34,774
REFERENCE/DOCKET NUMBER: 14137-0062-10
TELECOMMUNICATION INFORMATION:
TELEPRAN: (415) 57-0200
INFORMATION FOR SEQ ID NO: 23:
SEQUENCE CHARACTERISTICS:
LENGTH: 13 amino acids
TYPE: amino acid strandscars
                   APPLICATION NUMBER: US 08/121,101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TELEFAX: (415) 576-0300
INFORMATION FOR SEQ ID NO: 26:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LENGTH: 13 amino acids TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   linear
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Sequence 2.3 Application US/08305871A

Patent No. 575612

GENERAL INFORMATION:

APPLICANT: Sette, Alessandro

APPLICANT: Grevy, Howard M.

APPLICANT: Sidney, John

APPLICANT: Sidney, John

APPLICANT: Alexander, Jeffrey L.

TITLE OF INVENTION: Alteration of Immune Response Using Pan

TITLE OF INVENTION: D-Binding Peptides

NUMBER OF SEQUENCES: 29
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match 71.4%; Score 25; DB 1; Length 13; Best Local Similarity 100.0%; Pred. No. 33; Matches 4; Conservative 0; Mismatches 0; Indels
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
APPLICATION NUMBER: US/08/305,B71A
APPLICATION NUMBER: US 08/121,101
APPLICATION NUMBER: US
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MAME/KEY: Modified-site

LOCATION: 1..13

OTHER INFORMATION: /note= "Peptide wherein X is

OTHER INFORMATION: tyrosine or phenylalanine."
US-08-305-871A-22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SOFTWARE: Patentin Release #1.0, Version #1.30 CURRENT APPLICATION DATA:

PELICATION NUMBER: US/08/305, B71A
FILING DATE: 14.5EP-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CORRESPONDENCE ADDRESS:
ADDRESSEE: Townsend and Townsend and Crew LLP STREET: Two Enharcadero Center, Bighth Floor CITY: San Francisco STATE: California
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COUNTRY: USA
ZIP: 94111-3834
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STRANDEDNESS:
TOPOLOGY: linear
MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CLASSIFICATION: 424
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  7 WTLK 10
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RESULT 8
US-08-788-822A-30
IS GURBAND.
Sequence 30, Application US/08788822A
Sequence 30, Application US/08788822A
Patent No. 6413935
GENERAL INFORMATION:
APPLICANT: Alexander, Jeffrey L.
APPLICANT: Sette, Alessandr.
TITLE OF INVENTION: Induction of Immune Response Against
TITLE OF INVENTION: Desired Determinants
NUMBER OF SEQUENCES: 30
CORRESPONDENCE ADDRESS:
ADDRESSEE: Townsend and Townsend and Crew LLP
STREET: Two Embarcadero Center, Eighth Floor
CITY: San Francisco
STRIE: California
COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /product= "OTHER"
/note= "Xaa = cyclohexylalanine, Tyr,
Phe or conservative substitutions
therefor"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LOCATION: 7.8
O'THER IMPORMATION: /product= "OTHER"
O'THER INFORMATION: /note= "Xaa may be present or absent"
US-08-788-822A-30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      71.4%; Score 25; DB 4; Length 14; ilarity 100.0%; Pred. No. 35; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SOFTWARE: Patentin Release #1.0, Version #1.30 CURRENT APPLICATION DATA: APPLICATION NUMBER: US/08/788,822A FILING DATE: 23-JAN-1997 CLASSIFFCATION: 424 PRIOR APPLICATION NUMBER: US 60/010,510 APPLICATION NUMBER: US 67/10/510 APPLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NAME: Bastian, Kevin L.
REGISTRATION WIMBER: 34,774
REFERENCE/DOCKET NUMBER: 014137-009210US
TELECOMUNICATION INFORMATION:
TELEPHONE: (415) 576-0200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STATE: California
CONTRY: USA
ZIP: 94111-3834
COMPUTER READABLE FORM:
MEDTUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS_DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ; sequence 1, Application US/08652369A; Patent No. 5861268; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TELEPHONE: (415) 576-0200
TELEPAX: (415) 576-0300
INPORMATION FOR SEC ID NO: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NAME/KEY: Modified-site
LOCATION: 3
OTHER INFORMATION: /produc
OTHER INFORMATION: /note=
OTHER INFORMATION: Phe or
OTHER INFORMATION: therefore
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NAME/KEY: Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LENGTH: 14 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TOPOLOGY: linear MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TYPE: amino acid STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          9 WTLK 12
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US-08-652-369A-1
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APPLICANT: Alexander, Jeffrey L.
APPLICANT: Sette, Alessandro
TITLE OF INVENTION: Induction of Immune Response Against
TITLE OF INVENTION: Desired Determinants
NUMBER OF SEQUENCES: 30
CORRESPONDENCE ADDERSS:
ADDRESSEE: Townsend and Townsend and Crew Lide
STREET: Two Embarcadero Center, Eighth Floor
CITY: San Francisco
STATE: California
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match 71.4%; Score 25; DB 4; Length 13; Best Local Similarity 100.0%; Pred. No. 33; Matches 4; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                     71.4%; Score 25; DB 4; Length 13; 100.0%; Pred. No. 33; tive 0; Mismatches 0; Indels
                                                                                                                                                              ; LOCATION: 3
; OTHER INFORMATION: /product= "OTHER"
; OTHER INFORMATION: /note= "Xaa = cyclohexylalanine"
US-08-788-822A-26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COUNTRY: USA
ZIP: 94111-3834
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: ISOPPY disk
COMPUTER: Floppy disk
COMPUTER: Floppy disk
COMPUTER: Floppy disk
COMPUTER: Flop FC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PATENTIN RElease #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/788,822A
FILING DATE: 23-DAN-1997
CLASSIFICATION NUMBER: US 60/010,510
FILING DATE: 24-DAN-1996
ATTORNEY/AGENT INFORMATION:
NAME: Baselian, Kevin L.
REGISTRATION NUMBER: 34,774
REFERENCE/DOCKET NUMBER: 014137-009210US
TELECOMMUNICATION INFORMATION:
TELEFONE: (415) 576-0200
INFORMATION FOR SEQ ID NO: 27:
SEQUENCE CHARACTERISTICS:
LIENGTH: 13 amino acids
TTYPE: amino acid
STRANDENNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 7
US-08-788-822A-27
Sequence 27, Application US/08788822A
; Patent No. 6413935
                                                                                                                             NAME/KEY: Modified-site
                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity 100.
Matches 4; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TOPOLOGY: linear
MOLECULE TYPE: peptide
US-08-788-822A-27
                     TOPOLOGY: linear
MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -||||
7 WTLK 10
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7 WTLK 10
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Patent No. 6074645

GENERAL INFORMATION:
APPLICANT: DIAMOND, DON JEFFREY
APPLICANT: YORK, JOANNE
TITLE OF INVENTION: OF HUMAN CYTOMEGALOVIRUS
TITLE OF INVENTION: OF HUMAN CYTOMEGALOVIRUS
OCHRESPONDENCE ADDRESS:
ADDRESSEE: BART G. NEWLAND
STREET: 555 13TH STREET, NW SUITE 701E
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   71.4%; Score 25; DB 4; Length 23; 100.0%; Pred. No. 56; 0; Indels tive 0; Mismatches 0; Indels
                                                                                                                                                     MEDIUM TYPE: Disk
COMPUTER: ISM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/741,453A
FILING DATE: 19911015
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: KOKULIS, PAUL N.
REGISTRATION NUMBER: 9913/1107/US/ST
TELECOMMUNICATION INFORMATION:
TELEPAX: (202) 861-3000
TELEPAX: (202) 861-3000
TELEPAX: (202) 822-0944
TELEX: 6714627 CUSH
INFORMATION CRARACTERISTICS:
SEQUENCE CHARACTERISTICS:
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MEDIUW TYPE: Floppy disk
COMPUTER: Eloppy disk
COMPUTER: Floppy disk
COMPUTER: Floppy disk
COMPUTER: Floppy disk
COMPUTER: Floppy disk
COMPUTER: PatentIn Release #1.0, Version #1.30
SOFTWARE: PatentIn Release #1.0, Version #1.30
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION NUMBER: US/09/075,257A
FILING DATE: 11-MAY-1998
CLASSIFICATION NUMBER: US 09/021,298
FILING DATE: 10-FEB-1998
FILING DATE: 14-CFB-1998
PRIOR APPLICATION NUMBER: US 08/950,064
FILING DATE: 14-OCT-1997
PRIOR APPLICATION DATA:
       ADDRESSEE: CUSHMAN DARBY & CUSHMAN STREET: 1615 L STREET; N.W. CITY: WASHINGTON, D.C. COUNTRY: U.S.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ouery Match
Best Local Similarity 100.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LENGTH: 23 amino acids
TYPE: AMINO ACID
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          / MOLECULE TYPE: peptide
US-07-741-453A-25
                                                                                                   ZIP: 20036
COMPUTER READABLE FORM:
MEDIUM TYPE: Disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          linear
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         4 WTLK 7
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| Patent No. 6228597 | Patent No. 6228597 |
| Patent No. 6228597 |
| APPLICANT: PARMENTIER, MARC |
| APPLICANT: DUNONT, JACQUES |
| APPLICANT: DUNONT, JACQUES |
| APPLICANT: USSART, GILBERT |
| TITLE OF INVENTION: POLYPEPTIDES HAVING THYROTROPIN-RECEPTOR |
| TITLE OF INVENTION: AND POLYPEPTIDES, AND APPLICATIONS OF THESE POLYPEPTIDES |
| TITLE OF INVENTION: AND POLYPEPTIDES, AND APPLICATIONS OF THESE POLYPEPTIDES |
| CORRESPONDENCE ADDRESS:
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APPLICANT: Dean G. Tang, Kenneth V. Honn
TITLE OF INVENTION: Induction of Tumor
TITLE OF INVENTION: Cell Apoptosis With Chemical Inhibitors
TITLE OF INVENTION: Targeted to 12-Lipoxygenase
NUMBER OF SEQUENCES:
CORRESPONDENCES.
ADDRESSEE: Ian C. McLeod
STREET: 2190 Commons Parkway
CITY: Okemon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      71.4%; Score 25; DB 2; Length 18; 100.0%; Pred. No. 45; 0; Indels tive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                      COUNTRY: USA

ZIP: 48864

COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette 5.25 inch,
MEDIUM TYPE: Diskette 5.25 inch,
MEDIUM TYPE: J60 kb storage
COMPUTER: EMM Compatible
OPERATING SYSTEM: MS-DOS (version
OPERATING NUMBER: US/08/652,369A
OFTAMEN OF MS-DOS (version
OPERATING DATE:
APPLICATION NUMBER: Biomide 4.1-11
TELECOMMUNICATION INFORMATION:
TELEPHONE: (517) 347-4100
TELEPHONE: (517) 347-4103
INPORMATION FOR SEQ ID NO: 1:
SEMERATION FOR SEQ ID NO: 1:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DESCRIPTION: DNA primer for segment DESCRIPTION: of 12-lipoxygenase. HYPOTHETICAL: No
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity 100.00
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LENGTH: 18
TYPE: Amino Acid
STRANDEDNESS: Single
TOPOLOGY: Linear
MOLECULE TYPE:
                                                                                                                                                                                                                    Michigan
: USA
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IMMEDIATE SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ANTI-SENSE: NO
ORIGINAL SOURCE:
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US-07-741-453A-25
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COUNTRY:
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                                                                                              RESULT 13
US-09-075-257A-15
US-09-075-257A-15
Sequence 15, Application US/09075257A
Patent No. 6074645
GENERAL INFORMATION:
APPLICANT: DIAMOND, DON JEFFREY
APPLICANT: DIAMOND, DON JEFFREY
TITLE OF INVENTION: IMMUNO-REACTIVE PREPTIDE CTL EPITOPES
ITILE OF INVENTION: OF HUMAN CYTOMEGALOVIRUS
NUMBER OF SEQUENCES: 20
NUMBER OF SEQUENCES: 20
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match 71.4%; Score 25; DB 3; Length 28; Best Local Similarity 100.0%; Pred. No. 68; Matches 4; Conservative 0; Mismatches 0; Indels
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CTHER INFORMATION: /note= "Xaa = cyclohexylalanine;
CTHER INFORMATION: or phenylalanine"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMPUTER READBLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IEM PC compatible
OEMRATING SYSTEM: PC-DOS/MS-DOS
OFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION UNMBER: US/09/075,257A
FILING DATE: 11-MAY-1998
CLASSIFICATION: 424
PRIOR APPLICATION UNMBER: US 09/021,298
FILING DATE: 11-MAY-1998
FILING DATE: 10-FEB-1998
FILING DATE: 10-FEB-1998
FILING DATE: 14-OCT-1997
RIOR APPLICATION NUMBER: US 08/950,064
FILING DATE: 14-OCT-1997
RIOR APPLICATION NUMBER: US 08/950,064
FILING DATE: 12-NOV-1996
ATTORNEY AGENT INFORMATION:
NAME: NEMEL NEMEMORE BART G
REGISTRATION NUMBER: US 1282
REGISTRATION NUMBER: US 1282
REGISTRATION NUMBER: US 1282
REGISTRATION NUMBER: US 1282
                                                                                                                                                                                                                                                                                                                                                                              ADDRESSEE: BART G. NEWLAND
STREET: 555 13TH STREET, NW SUITE 701E
CITY: WASHINGTON
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1954-112CP3
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US-09-075-257A-16
; Sequence 16, Application US/09075257A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REFERENCE/DOCKET NUMBER: 1954
TELECOMMUNICATION INFORMATION:
TELEPHONE: 202-783-6040
TELEFAX: 202-783-603
INFORMATION FOR SEQ ID NO: 15:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STRANDEDNESS: not relevant
TOPOLOGY: not relevant
MOLECULE TYPE: peptide
FRAGMENT TYPE: internal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        28 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TYPE: amino acid
STRANDEDNESS: not
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NAME/KEY: Domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  USA
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US-09-534-639-17
Sequence 17, Application US/09534639
Facture No. 6251399
IGENERAL INFORMATION:
APPLICANT: York, Joanne
ITILE OF INVENTION: INMUNO-REACTIVE PEPTIDE CTL EPITOPES OF HUMAN
ITILE OF INVENTION: LOWERACOVENS
FILE REPERENCE: 1954-34
ICURRENT PLING DATE: 2000-03-27
FARLIER APPLICATION NUMBER: 09/075,257
EARLIER APPLICATION NUMBER: 09/021,298
EARLIER APPLICATION NUMBER: 08/950,064
EARLIER FILING DATE: 1998-05-10
EARLIER FILING DATE: 1997-10-14
EARLIER FILING DATE: 1997-11-12
NUMBER OF SEQ ID NOS: 2.1
EARLIER FILING DATE: 1997-11-12
NUMBER OF SEQ ID NOS: 2.1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              OTHER INFORMATION: Xaa = cyclohexylalanine or phenylalanine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match 71.4%; Score 25; DB 4; Length 25; Best Local Similarity 100.0%; Pred. No. 61; Matches 4; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            71.4%; Score 25; DB 3; Length 25; 100.0%; Pred. No. 61; 0; Indels tive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ; OTHER INFORMATION: /note= "Xaa = cyclohexylalanine; OTHER INFORMATION: or phenylalanine"
US-09-075-257A-17
                                                                                                                                  1954-112CP3
APPLICATION NUMBER: US 08/747,488
FILING DATE: 12-NOV-1996
ATTORNEY/AGENT INFORMATION:
NAME: NEMLAND, BART G
                                                                                              REGISTRATION NUMBER: 31,282
REFERENCE/DOCKET NUMBER: 1954-
TELECOMMUNICATION INFORMATION:
TELEPHONE: 202-783-6031
INFORMATION FOR SEQ ID NO: 17:
SEQUENCE CHARACTERISTICS:
LENGTH: 25 amino acids
TYPE: amino acids
TYPE: amino acids
TYPE: peptide
STRANDEDNESS: not relevant
TOPOLOGY: not relevant
MOLECULE TYPE: peptide
FRAGMENT TYPE: internal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Best Local Similarity 100.
Matches 4; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                            NAME/KEY: Domain
LOCATION: 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NAME/KEY: VARIANT
LOCATION: (6)
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GENERAL INPORMATION:
APPLICANT: DIAMOND, DON JEFFREY
APPLICANT: VORK, JOANNE
TITLE OF INVENTION: IMMUNO-REACTIVE PEPTIDE CTL EPITOPES
TITLE OF INVENTION: OF HUMAN CYTOMEGALOVIRUS
NUMBER OF SEQUENCES: 20
CORRESPONDENCE ADDRESS:
ADDRESSEE: BART G. NEWLAND
STREET: 555 13TH STREET, NW SUITE 701E
CITY: WASHINGTON
STATE: DC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match 71.4%; Score 25; DB 3; Length 28; Best Local Similarity 100.0%; Pred. No. 68; Matches 4; Conservative 0; Mismatches 0; Indels
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7 OTHER INFORMATION: /note= "Xaa = cyclohexylalanine"
OTHER INFORMATION: or phenylalanine"
US-09-075-257A-16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMPTRY: USA
COMPUTRY: USA
COMPUTRY: USA
COMPUTRY: ISA
MEDIUM TYPE: Floppy disk
COMPUTRY: ISM FC compatible
COMPUTRY: ISM FC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PATENTIN Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/075,257A
FTLING DATE: 11-MAY-1998
CLASSIPICATION NUMBER: US 09/021,298
FTLING DATE: 10-PEB-1998
PRIOR APPLICATION NUMBER: US 08/950,064
FTLING DATE: 14-OCT-1997
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/950,064
FTLING DATE: 14-OCT-1997
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/950,064
FTLING DATE: 12-NOV-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NAME: NEWLAND, BART G
REGISTATION NUMBER: 31.282
REFERENCE/DOCKET NUMBER: 1954-112CP3
TELECOMMUNICATION INFORMATION:
TELEPHONS: 202.783-640
TELEFAX: 202.783-601
INFORMATION FOR SEQ ID NO: 16:
SEQUENCE CHARACTER.ESTICS:
LENGTH: 28 amino acids
TYPE: amino acids
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TOPOLOGY: not relevant
MOLECULE TYPE: peptide
FRAGMENT TYPE: internal
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LOCATION: 6
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                                                                                                                                                                                                                                                                                                                                                                                                             TYPE: PRT
ORGANIZM: Artificial Sequence
ORGANIZM: Artificial Sequence
NAME/KEY: VARIANT
LOCATION: (6)
OTHER THFORMATION: Xea = cyclohexylalanine or phenylalanine
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match 71.4%; Score 25; DB 4; Length 28; Best Local Similarity 100.0%; Pred. No. 68; Matches 4; Conservative 0; Mismatches 0; Indels
CURRENT APPLICATION NUMBER: US/09/534,639
                      CURRENT FILING DATE: 2000-03-27
EARLIER APPLICATION WUMBER: 09/075,257
EARLIER TILING DATE: 1998-05-11
EARLIER FILING DATE: 1998-02-10
EARLIER FILING DATE: 1998-02-10
EARLIER FILING DATE: 1998-02-10
EARLIER APPLICATION WUMBER: 08/950,064
EARLIER FILING DATE: 1997-10-14
EARLIER FILING DATE: 1997-10-14
SARLIER FILING DATE: 1996-11-12
NUMBER OF SEQ ID NOS: 20
SOFTWARE: PAREITN Ver. 2.1
SEQ ID NO 15
LENGTH: 28
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us-09-707-738-25.rpr

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GenCore version 5.1.3
Copyright (c) 1993 - 2003 Compugen Ltd.
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OM protein - protein search, using sw model

January 29, 2003, 10:42:07 ; Search time 12.5455 Seconds (without alignments) 114.943 Million cell updates/sec Run on:

US-09-707-738-25 36 1 XXXXXWTLKXXXXX 15 Title: Perfect score: Sequence:

283224 seqs, 96134422 residues Scoring table: BLOSUM62 Gapop 10.0 , Gapext 0.5 Searched:

283224 Total number of hits satisfying chosen parameters:

Minimum DB seq length: 0 Maximum DB seq length: 200000000

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

Database :

PIR 73:*
1: pir1:*
2: pir2:*
3: pir3:*
4: pir4:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

	Description	leukotriene B-4 12	1 prot	potentia	potential	_	hetical pr		Ψ	translation repres	hypothetical prote		U	hypothetical prote		_	_	_	Ω.	hypothetical prote	\sim	hypothetical prote	О	hypothetical prote	hypothetical prote	О	31K outer-membrane	hypothetical prote	conserved hypothet	
SOUTHWATES		A47421	AB1984	835586	IHKREV	IHTFER	D97355	\$23863	A41384	A45385	C97299	T12858	G90472	F90143	C90295	E72731	T29392	869658	H89784	G89764	A83965	T48641	T00789	T46695	E69170	F97063	AD3302	C97558	27	C69063
	Query Match Length DB	14 2					90 2				127 2			152 2				163 2	164 2							01	01			203 2
*	Query	69.4	69.4	69.4	69.4	69.4	69.4	69.4	69.4	69.4	69.4	69.4	69.4	69.4	69.4	69.4	69.4	σ	69.4	69.4	69.4	69.4	69.4	69.4	69.4	69.4	69.4	69.4	69.4	69.4
	Score		25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	22	25
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7 WTLK 10

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	64 protein – cotto hypothetical prote hypothetical prote	31K outer-membrane proteasome activat	proteasome activat hypothetical prote hypothetical prote	hypothetical prote ricin E - castor b	hypothetical prote probable permease	hypothetical prote
C70029 H69539	W4WLK8 AF1898 D71693	AC3615 167638	153518 T45814 T23077	D87397 S06330 B95259	E98124 H98208	AI3077
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207	212	238	239 240 249	252 263 264	264	266
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30 31	33 34 34	382	388 39	40 41 42	4 4 4 4	45

ALIGNMENTS

RESULT 1 A47421 leukotriene B-4 12-hydroxydehydrogenase (EC 1.1.1) - pig (fragment) C;Species: Sus scrofa domestica (domestic pig) C;Accession: A47421 R;Yokomizo, T.; Izumi, T.; Takahashi, T.; Kasama, T.; Kobayashi, Y.; Sato, F.; Taketani, J. Biol. Chem. 268, 18128-18135, 1993 A;Ttle: Enzymatic inactivation of leukotriene B-4 by a novel enzyme found in the porcine A;Accession: A47421 A;Reference number: A47421 A;Status: preliminary A;Molecule type: protein A;Residues: 1-14 < YOK) C;Keywords: oxidoreductase	Query Match 69.4%; Score 25; DB 2; Length 14; Best Local Similarity 100.0%; Pred. No. 19; Matches 4; Conservative 0; Mismatches 0; Indels 0; Gaps 0; Qy 7 WTLK 10	Db 6 WTLK 9 RESULT 2 AB1984 hypothetical protein asl1421 [imported] - Nostoc sp. (strain PCC 7120)	C.) Species: Nostocs op. strain PCC 7120 is a synonym of Anabaena sp. strain PCC 7120 C.) Date: 14-Dec-2001 #sequence_revision 14-Dec-2001 #text_change 30-Jun-2002 C.) Accessionn AB1984 Y.; Wolk, C.P.; Kuritz, T.; Sasamoto, S.; Watanabe, A.; Iriguchi, R.Kaneko, T.; Wakamura, Y.; Wolk, C.P.; Kuritz, T.; Sasamoto, S.; Watanabe, A.; Iriguchi, Nakazaki, N.; Shimpo, S.; Sugimoto, M.; Takazawa, M.; Yamada, M.; Yasuda, M.; Tabata, S.	DNA Res. 8, 205-213, 2001 A,Title: Complete Genomic Sequence of the Filamentous Nitrogen-fixing Cyanobacterium Anal A,Reference number: AB1807; MUID:21595285; PMID:11759840 A,Accession: AB1984 A,Status: preliminary A,Molecule + Type: DNA A,Residues: 1-70 - KMIR>	A;Cross-references: GB:BA000019; PIDN:BAB73378.1; PID:g17130768; GSPDB:GN00179 A;Experimental source: strain PCC 7120 C;Genetics: A;Gene: as11421	Query Match 69.4%; Score 25; DB 2; Length 70; Best Local Similarity 100.0%; Pred. No. 97; Matches 4; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
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C,Accession: A00264
C,Accession: A00264
J. Biol. Chem. 256, 731-735, 1981
A,Title: Primary structures of high potential, four-iron-sulfur ferredoxins from the purEl A,Reference number: A92330; MUID:81094036; PMID:7451471
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A,Title: Comparison of oxidation-reduction site geometries in oxidized and reduced Chromz A,Reference number: 921461, WIUI:75019502, PMID:4417854
A,Contents: annotation; X-ray crystallograph profession of the oxidized and reduced forms are compared with each other and wite C,Superfamily: high potential iron-sulfur protein (C,Superfamily: high potential iron-sulfur protein (C,Reywords: 4Fe-4S; electron transfer; iron-sulfur protein; metalloprotein F;43,46,63,77/Binding site: 4Fe-4S cluster (Cys) (covalent) #status experimental
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  - Thiocapsa roseopersicina (tentative sequence)
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A;Experimental source: Clostridium acetobutylicum ATCC824
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A;Accession: A00264
A;Molecule type: protein
A;Mesidues: 1-85 <TED.
C;Superfamily: high potential iron-sulfur protein
C;Keywords: 4fe-45; electron transfer; iron-sulfur protein; metalloprotein
F;43,46,63,77/Binding site: 4fe-48 cluster (Cys) (covalent) #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  high potential iron-sulfur protein - Thiocapsa roseopersicina (tentative sec
C;Species: Thiocapsa roseopersicina
C;Date: 31-Mar-1981 #sequence_revision 31-Mar-1981 #text_change 31-Mar-2000
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                                                                                                                                                                                                                                                                       Query Match 69.4%; Score 25; DB 1; Length 85; Best Local Similarity 100.0%; Pred. No. 1.2e+02; Matches 4; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         69.4%; Score 25; DB 2; Length 90;
ilarity 100.0%; Pred. No. 1.2e+02;
Conservative 0; Mismatches 0; Indels
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Best Local Similarity
Matches 4; Conserv
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C;Species: Chromatium vinosum
C;Dace: 24-Apr-1984 Hasquence revision 24-Oct-1997 #text_change 15-Sep-2000
C;Accession: A92330; A92143; A00263
R;Tedro, S.M.; Meyer, T.E.; Bartsch, R.G.; Kamen, M.D.
J. Biol. Chem. 256, 731-735, 1981
A;Title: Primary structures of high potential, four-iron-sulfur ferredoxins from the pur
A;Reference number: A92330; MUID:81094036; PMID:7451471
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A; Exestidues: 1-10, N', 12-44,'D', 46-85 < DUS>
A; Experimental source: strain D
R; Banci, L.; Bertini, I.; Dikiy, A.; Kastrau, D.H.W.; Luchinat, C.; Sompornpisut, P. submitted to the Brookhaven Protein Data Bank, January 1995
A; Reference number: A65814; PDB:1HRQ
A; Reference number: A65814; PDB:1HRQ
A; Contents: annotation; conformation by (1)H-NNR, reduced form, residues 1-85
R; Bertini, I.; Dikiy, A.; Kastrau, D.H.W.; Luchinat, C.; Sompornpisut, P.
B; Reference number: A66207; PDB:1NEH
A; Ribackes, G.; Mino, Y.; Lochr, T.W.; Meyer, T.E.; Cusanovich, M.A.; Sweeney, W.V.; Adman
A; Tille: The environment of Fe454 clusters in ferredoxins and high-potential iron protein
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A,Title: Two-angstrom crystal structure of oxidized Chromatium high potential iron prote A. Reference number: A92153, MUD: 74309824; PMID: 485287
A;Contents: annotation; X-ray crystallography, 2.0 angstroms
R;Carter Jr., C.W.; Kraut. J.; Freer, S.T.; Alden, R.A.
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A;Molecule type: protein
R;Rseidues: 1-73, 75-75-86 <TED>
R;bus, K.; Tedro, S.; Bartsch, R.G.
J. Biol. Chem. 248, 7318-7331, 1973
A;Title: The complete amino acid sequence of Chromatium high potential iron sulfur prote A;Accession: A92143; MUID:74012043; PMID:4745771
A;Accession: A92143
                                                                                                                                                                        high potential iron-sulfur protein - Chromatium tepidum
C;Species: Chromatium tepidum
C;Species: Chromatium tepidum
C;Date: 10-Dec-1993 #sequence_revision 27-Feb-1997 #text_change 18-Jun-1999
C;Accession: S35586
R;Moulis, J.M.; Scherrer, N.; Gagnon, J.; Forest, E.; Petillot, Y.; Garcia, D. Arch. Biocochem. Brophys. 305, 186-192, 1993
A;Title: Primary structure of Chromatium tepidum high-potential iron-sulfur protein in: A;Reference number: S35586; MUID:93343628; PMID:8393645
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A,Status: preliminary
A,Molecule type: proctein
A,Residues: 1-81 <MOU>
C,Superfamily: high potential iron-sulfur protein
C,Keywords: 4Fe-4S; iron-sulfur protein; metalloprotein
F,43,46,61,75/Binding site: 4Fe-4S cluster (Cys) (covalent) #status predicted
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100.0%; Pred. No. 1.1e+02;
iive 0; Mismatches 0; Indels
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Matches 4; Conservative
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A;Recession: Italians
A;Retus: preliminary; translated from GB/EMBL/DDBJ
A;Retus: preliminary; translated from GB/EMBL/DDBJ
A;Rolecule type: DNA
A;Residues: 1-134 c.LAZ
A;Cross-references: EMBL:AF020713; NID:g3025478; PID:g3025572; PIDN:AAC13067.1
R;Kunst. F: Ogaswara, N: Moszer, I:, Albertini, A.M.; Alloni, G.; Azevedo, V.; Berterc
C.; Bron, S.; Brouillet, S. D.; Emmerson, P.T.; Entian, K.D.; Errington, J.; Fabret, C.; Ferrari, E.
Nature 390, 249-256, 1997
A;Authors: Foulger, D.; Fritz, C.; Fujita, M.; Fujita, Y.; Fuma, S.; Galizzi, A.; Gallerc
iech, J.; Harwood, C.R.; Henaut, A.; Hilbert, H.; Holsappel, S.; Hosono, S.; Hullo, M.F.
Koetter, P.; Koningstein, G.; Krogh, S.; Kumano, M.; Kurita, K.; Lapidus, A.; Lardinois,
A;Authors: Lauber, J.; Lazarevic, V.; Lee, S.M.; Levine, A.; Liu, H.; Masuda, S.; Mausell,
Y, M.; Ogawa, K.; Ogiwara, A.; Oudega, B.; Park, S.H.; Parro, V.; Pohl, T.M.; Portectalle,
Rieger, M.; Rivolta, C.; Rocha, B.; Roche, B.; Rose, M.; Sadaie, Y.; Saro, T.; Scanlon,
A;Authors: Schleich, S.; Schroeter, R.; Scoffone, F.; Sekiguchi, J.; Sekowaka, A.; Yoshida, K.; Yasumoto, H.; Yamane, K.; Yasumoto, K.; Yata, K.; Yasu, K.; Yoshida, K.; A;Authors: Yoshikawa, H.F.; Zumstein, E.; Yoshikawa, H.; Danchin, A.; Tosato, V.; Volhiyama,
A;Reference number: A69580; MUD:98044033; PMID:9384377
A;Retus: nucleic acid sequence not shown; translation not shown
A;Reference number DNA
A;Reference number how
                                                                                                                                                                                                                                                                                                                                                                                 hypothetical protein CAC3248 [imported] - Clostridium acetobutylicum CSpecies: Clostridium acetobutylicum CSpecies: Clostridium acetobutylicum CSpecies: Clostridium acetobutylicum CSPC014 #sequence_revision 14-Sep-2001 #sequence_revision 14-Sep-2001 #sequence_revision 14-Sep-2001 #sequence_revision 14-Sep-2001 #sequence_revision 14-Sep-2001 #sequence CSPC029 Rivolling, J.; Bereton, G; Omelchenko, M.V.; Markarova, K.S.; Zeng, Q.; Gibson, R.; Lee, J. Daly, M.J.; Bennett, G.N.; Koonin, B.V.; Smith, D.R. J. Bacteriol. 183, 4833, 2001 A;Title: Genome Sequence and Comparative Analysis of the Solvent-Producing Bacterium Clos A;Reference number: A96900; MUID:21359325; PMID:21359325 A;Accession: C97299 A;Accession: C97299
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C;Species: Bacillus subtilis phage SPBC2
C;Date: 13-Aug-1999 #text_change 20-Jun-2000
C;Accession: T12858; F69918
R;Lazarevic, V.; Duesterhoeft, A.; Soldo, B.; Hilbert, H.; Mauel, C.; Karamata, D. submitted to the RBB Data Library, August 1997
A;Description: The complete nucleotide sequence of the Bacillus subtilis SPbetac2 prophage.
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A;Cross-references: GB:Z99114; GB:Z99115; GB:AL009126; NID:g2634478; PIDN:CAB13991.1; PII
A;Experimental source: strain 168
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A;Residues: 1-127 «KUR»
A;Cross-references: GB.RE001437; PIDN:AAKB1182.1; PID:g15026321; GSPDB:GN0016B
A;Experimental source: Clostridium acetobutylicum ATCC824
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Best Local Similarity 100.0%; Pred. No. 1.8e+02;
Matches 4; Conservative 0; Mismatches 0;
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A;Gene: CAC3248
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ALIBH
ALIBH
C.Schoinic acetylcholine receptor alpha chain - Chinese cobra (fragment)
C.Species: Naja naja atra (Chinese cobra)
C.Species: Naja naja atra (Chinese cobra)
C.Bate: 30-Jun-1992 #sequence_revision 30-Jun-1992 #text_change 20-Aug-1999
C.Bate: 30-Jun-1992 #sequence_revision 30-Jun-1992 #text_change 20-Aug-1999
C.Batesian, D.; Barchan, D.; Horowitz, M.; Kochva, E.; Fuchs, S.
Proc. Natl. Acad. Sci. U.S.A. 86, 7255-7259, 1989
A.Fitle: Shake acetylcholine receptor: cloning of the domain containing the four extrace A.Reference number: A41384; MUID:89386720; PMID:2780569
A.Rocession: A41384
A.Rocession: A41384
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Proc. Natl. Acad. Sci. U.S.A. 89, 5053-5057, 1992
A;Title: Regions of bacteriophage T4 and RB69 RegA translational repressor proteins that A;Reference number: A45385, MUID:92279264; PMID:1594613
A;Reference number: A45385
A;Accession: A45385
A;Retaute: preliminary
A;Molecule type: DNA
A;Residues: 1-122 cJOZ>
A;Cross-references: GB:M86231; NID:9215354; PIDN:AAA32295.1; PID:9215356
Asymptotherical protein 2 - garlic mosaic virus
C;Species: garlic mosaic virus, GarMV
C;Dete: 20-Feb-1995 #sequence_revision 20-Feb-1995 #text_change 08-Oct-1999
C;Accession: S2386.
C;Accession: S2386.
R;Choi, J.N.; Choi, Y.H.; Choi, Y.D.; Lee, J.S.
Submitted to the EMBL Data Library, June 1992.
A;Description: Nucleotide sequence of a cDNA for garlic mosaic virus.
A;Accession: S23862
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C;Species: phage RB69
C;Date: 19-Mar-1997 #sequence_revision 19-Mar-1997 #text_change 20-Sep-1999
C;Accession: A45385
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A;Residues: 1-104 <NEU>
A;Cross-references: GB:M263B8; NID:g213370; PIDN:AAA49384.1; PID:g213371
C;Superfamily: acetylcholine receptor
C;Keywords: neurotransmitter receptor
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C;Superfamily: phage T4 translation repressor
C;Keywords: RNA binding; translation repressor
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Matches 4; Conservative
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58 WTLK 61
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Mypotherical protein APE0390 - Aeropyrum pernix (strain K1)
C;Species: Aeropyrum pernix
C;Dete: 20-Mag-1999 #text_change 20-Jun-2000
C;Accession: E72731
R;Kawarabayasi, Y.; Hino, Y.; Horikawa, H.; Yamazaki, S.; Haikawa, Y.; Jin-no, K.; Takahawa, H.; Tahaka, H.; Tahawa, Y.; Jin-no, K.; Takahawa, H.; Takamiya, M.; Masuda, S.; Funahashi, T.; Tanaka, T.; Kudoh, Y.; Yamazaki, J.; Kulon, Masuda, B.; Funahashi, T.; Tanaka, T.; Kudoh, Y.; Yamazaki, J.; Kulon, Masuda, Mayittle: Complete genome sequence of an aerobic hyper-thermophilic Crenarchaeon, Aeropyruka, Markeference number: A72450; MUID:99310339; PMID:10382966
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        hypothetical protein SSO1384 [imported] - Sulfolobus solfataricus transposon ISC1078 hypothetical protein SSO1384 [imported] - Sulfolobus solfataricus solfataricus c.Species: Sulfolobus solfataricus c.Species: Sulfolobus solfataricus c.Species: Sulfolobus solfataricus c.Solo c.Species: Sulfolobus solfataricus c.Way-2001 #text_change 24-May-2001 c.Species: Solo c.S
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A;Molecule type: DNA
A;Residues: 1-152 <KUR>
A;Cross-references: GB:AE006641; NID:g13814600; PIDN:AAK41618.1; GSPDB:GN00155
C;Genetics:
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A,Scatus: preliminary
A,Molecule type: DNA
A,Residues: 1-159 «KAW>
A,Residues: 1-159 «KAW>
A,Fross-references: DDBJ:AP000059; NID:g5103911; PIDN:BAA79345.1; PID:g5104029
A,Experimental source: strain K1
C,Genetics:
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69.4%; Score 25; DB 2; Length 159;
Best Local Similarity 100.0%; Pred. No. 2.2e+02;
Matches 4; Conservative 0; Mismatches 0; Indels
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69.4%; Score 25; DB 2; Length 152;
Best Local Similarity 100.0%; Pred. No. 2.1e+02;
Matches 4; Conservative 0; Mismatches 0; Indels
                                                                                                                            Length 152;
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                                                                                                                  Query Match
69.4%; Score 25; DB 2; Le
Best Local Similarity 100.0%; Pred. No. 2.1e+02;
Matches 4; Conservative 0; Mismatches 0;
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C;Genetics:
A;Gene: SSO0040; SSO1750; SSO2992; SSO1264
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37 WTLK 40
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91 WTLK 94
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A, Status: proliminary
A, Molecule type: DNA
A, Cross-references: GB: AE006641; NID: G13813171; PIDN: AAK40405.1; GSPDB: GN00155
A, Cross-references: GB: AE006641; NID: G13813171; PIDN: AAK40405.1; GSPDB: GN00155
A, Cross-references: GB: AE006641; NID: G13814994; PIDN: AAK41946.1; GSPDB: GN00155
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A, Accession: C90480
A, Status: preliminary
A, Molecule type: DNA
A, Residues: 1-152 < KU3>
A, Cross-references: GB: AE006641; NID: G13816382; PIDN: AAK43098.1; GSPDB: GN00155
A, Cross-references: GB: AE006641; NID: G13816382; PIDN: AAK43098.1; GSPDB: GN00155
A, Cross-references: GB: AE006641; NID: G13816460; PIDN: AAK41502.1; GSPDB: GN00155
A, Cross-references: GB: AE006641; NID: G13814460; PIDN: AAK41502.1; GSPDB: GN00155
A, Cross-references: GB: AE006641; NID: G13814460; PIDN: AAK41502.1; GSPDB: GN00155
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A,Accession: G90472
A,Stratus: pre-liminary
A,Molecule type: DNA
A,Molecule type: Lary
A,Residues: 1-137 < KUR-
A,CROSE.FEFERENCES: GB:AE006641; NID:g13816304; PIDN:AAK43038.1; GSPDB:GN00155
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              A;Gene: yopX
C;Superfamily: Bacillus subtilis phage SPBc2 hypothetical protein yopX
                                                                                                                            Query Match 69.4%; Score 25; DB 2; Length 134; Best Local Similarity 100.0%; Pred. No. 1.9e+02; Matches 4; Conservative 0; Mismatches 0; Indels
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                                                                                                                                                                                                                      January 29, 2003, 10:30:17; Search time 6.81818 Seconds (without alignments) 91.248 Million cell updates/sec
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Copyright (c) 1993 - 2003 Compugen Ltd.
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Gapop 10.0 , Gapext 0.5
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Perfect score:
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NCBI_TaxID=1488;
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ID NULM BRARE
AC Q9MIY2;
  Clostridium
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Bacteria, Proteobacteria; gamma subdivision, Chromatiaceae; Thiocapsa.
NCBI_TAXID=1058.
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MEDIURE=81094036; PubMed=7451471;
Tedro S.M., Meyer T.E., Bartsch R.G., Kamen M.D.;
Tedro S.M., Meyer T.E., Bartsch R.G., Kamen M.D.;
Tedro S.M., Meyer T.E., Bartsch R.G., Kamen M.D.;
Prinary structures of high potential, four-iron-sulfur ferredoxins
from the pruple sulfur photosynthetic bacteria, Thiocapsa
froseoperation and Chromatium gracile.";
J. Blol. Chem. 256:731-735 (1981).
-!- FUNCTION: SPECIFIC CLASS OF HIGH-REDOX-POTENTIAL 4FE-45
FERREDOXINS: FUNCTIONS IN ANARENOBIC ELECTRON TRANSPORT IN MOST
PURPLE AND IN SOWE OTHER PHOTOSYNTHETIC BACTERIA AND IN AT LEAST
ONE GENUS (FRAROCCUS) OF HALOPHILIC, DENITRIFVING BACTERIA.
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SIMILARITY).
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-i- SIMILARITY: BELONGS TO THE HIGH POTENTIAL IRON-SULFUR PROTEIN
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Bacteria; Firmicutes; Clostridia; Clostridiales; Clostridiaceae;
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IRON-SULFUR (4FE-4S).
IRON-SULFUR (4FE-4S).
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21-JUL-1986 (Rel. 01, Last sequence update)
15-JUN-2002 (Rel. 11, Last annotation update)
High potential iron-sulfur protein (HiPIP).
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16-OCT-2001 (Rel. 40, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
Hypotherical protein CAC3711.
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                                                                           69.4%; Score 25; DB
100.0%; Pred. No. 55;
ive 0; Mismatches
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METAL 43 43 IRON-SULFUR
METAL 46 46 IRON-SULFUR
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PIR, A00264; IHTPER.
HSSP, P00260; ICKU.
InterPro; IPRO00170; Hipot_ironsulf.
Pfam; PPO1355; HIPIP; 1.
PRINTS; PR00374; HIPIPFROXIN.
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B7B6 MW;
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83 AA;
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MFDLINE=211593525; PubMed=11466286,
MFDLINE=211593525; PubMed=11466286,
MFDLINE=211593525; PubMed=14466286,
Gibson R., Lee H.M., Dubois J., Qiu D., Hitti J., Wolf Y.I.,
TATUSOV R.L., Sabathe F., Doucette-Stamm L., Soucaille P., Daly M.J.,
Bennett G.N., Koonin B.V., Smith D.R.;
"Genome sequence and comparative analysis of the solvent-producing
bacterium Clostridium acetobutylicum.";
"Bacteriol. 183:48234938(2001).
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NCBI_TAXID=1955,
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                                                                                                  Sauer U., Duerre P.;
"Sequence and molecular characterization of a DNA region encoding a small heat shock protein of Clostridium acetobutylicum.";
J. Bacteriol. 175:3394-3400(1993).
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MEDIJNE=21549095; PubMed=11691861;
Broughton R.B., Milam J. B., Roe Bl.A.;
"The complete sequence of the zebrafish (Danio rerio) mitochondrial genome and evolutionary patterns in vertebrate mitochondrial DNA.";
Genome Res. 11:1958-1967(2001).
-- CAPALYTIC ACTIVITY: NADH + ubiquinone = NAD(+) + ubiquinol.
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Hypotherical protein; Complete proteome.
SEQUENCE 90 AA; 10302 MW; DDDDE0FSC2FDD3CC CRC64;
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15-JUN-2002 (Rel. 41, Last sequence update)
15-JUN-2002 (Rel. 41, Last amnotation update)
NADH-ubiquinone oxidoreductase chain 4L (EC 1.6.5.3).
MTMD4L OR ND4L.
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0; Mismatches
SEQUENCE FROM N.A.
STRAIN=ATCC 824 / DSM 792 / VKM B-1787;
MEDLINE=93273706; Pubmed=8501044;
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modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/
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                                                                                                                                                                                                                                                                                                                                                                                                             01-JAN-1990 (Rel. 13, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
Acetylcholine receptor protein, alpha chain (Fragment).
Naja naja (Indian cobra)
Bukaryota, Metazoa, Chordata, Craniata, Vertebrata, Buteleostomi,
Lepidosauria; Squamata, Scleroglossa, Serpentes; Colubroidea;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DELTA, AND GAMMA CHAINS.
SUBCELLULAR LOCATION: Integral membrane protein.
SIMILARITY: BELONGS TO THE LIGAND-GATED IONIC CHANNEL FAMILY.
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ASSOCIATED WITH RECEPTOR ACTIVATION.
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Pfam; PF02031; Neur_chan_LBD; 1.
PROSITE; PS00236; NEUROTR_ION CHANNEL; 1.
Receptor; Postsynaptic membrane; Ionic channel; Glycoprotein.
NON_TER
                                                                                                                                                                                                   69.4%; Score 25; DB 1; Length 98; 100.0%; Pred. No. 64; 0; Mismatches 0; Indels
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24 BY SIMILARITY.
75 ASSOCIATED WITH RECEPTOR.
23 N-LINKED (GLCNAC. . .) (P)
104
; 12194 MW; 47A39E2C9BFBA7A0 CRC64;
                                                                                                                                                        Oxidoreductase, NAD, Ubiquinone, Mitochondrion.
SEQUENCE 98 AA, 10523 MW; 54C4B6230D23EF24 CRC64;
                                                                                                                                                                                                                                                                                                                                                                         104 AA.
                                                                                                                                                                                                                                Mismatches
                     entities requires a license agreement (S
or send an email to license@isb-sib.ch).
                                                          EMBL; ACO24175; AAF74305.1; -
ZFIN; ZDB-GENE-011205-11; mtnd41.
InterPro; IPR001133; Oxidored 4L.
InterPro; IRR003214; Oxidred4L.
Pfam; PF00420; oxidored q2; 1.
ProDom; PD000359; Oxidored4L; 1.
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NCBI_TaxID=35670;
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1. FUNCTION: Transfers the 4'-phosphopantetheine moiety from coenzyme A to a Ser of acql.carrier protein (By similarity).

2. CATALYTIC ACTIVITY: CoA + apo-[acyl-carrier protein] = adenosine 3'.5'-bisphosphate + holo-[acyl-carrier protein].

2. Subcrick Magnesium (By similarity).

2. SUBCRICULAR LOCATION: Cytoplasmic (By similarity).

2. SIMILARITY: BELONGS TO THE P-PANT TRANSFERASE SUPERFAMILY. ACPS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Fraser C.M., Gocayne J.D., White O., Adams M.D., Clayton R.A., Fleischmann R.D., Bult C.J., Kerlavage A.R., Sutton G., Kelley J.M., Frickhman J.L., Weidman J.E., Small K.V., Sandusky M., Fuhrmann J.L., Nguyen D.T., Utterback T.R., Saudek D.M., Phillips C.A., Merrick J.M., Tomb J.-F., Dougherty B.A., Bott K.F., Hu P.-C., Lucier T.S., Peterson S.N., Smith H.O., Hutchison C.A. III, Venter J.C., Science 270:397-403(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                      30-MAY-2000 (Rel. 39, Created)
30-MAY-2000 (Rel. 39, Last sequence update)
15-JUN-2000 (Rel. 34), Last annotation update)
15-JUN-2002 (Rel. 41, Last annotation update)
16-JUN-2002 (Rel. 41, Last annotation update)
16-JUN-2001 (Rel. 41, Last annotation update)
16-JUN-2001 Rel. 41, Last annotation update)
16-JUN-2002 (Rel. 41, Last annotation update)
16-JUN-2003 (Rel. 41, Last annotation update)
16-JUN-2003 (Rel. 39, Last annotation u
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Bacteria; Firmicutes; Mollicutes; Mycoplasmataceae; Mycoplasma
          Length 104;
                                                                    0; Indels
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58 MAGNESIUM (BY SIMILARITY)
13153 MW; 8992BBB560373E92 CRC64;
       Score 25; DB 1;
                                                                0; Mismatches
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Interpro; IPR004568; Pantethn_trn.
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STRAIN=ATCC 33530 / G-37;
MEDLINE=96026346; PubMed=7569993;
                                   100.08;
       69.48;
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Query Match
Best Local Similarity 100.
Matches 4; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sheldrick G.M.;
Ab intito solution and refinement of two high-potential iron protein structures at atomic resolution.";
Acta Crystallogr D 55:1773-1784(1999)
-!- PUNCTION: SPECIFIC CLASS OF HIGH-REDOX-POTENTIAL 4FE-4S
-!- PUNCTION: SPECIFIC CLASS OF HIGH-REDOX-POTENTIAL AFE-4S
-!- PUNCTION: SOME OTHER PHOTOSYMTHETIC EACTERNA AND IN ALEAST
ONE GENUS (PRARACOCCUS) OF HALOPHILIC, DENITRIPYING BACTERIA.
THE MIDPOINT REDOX POTENTIAL POR THIS PROTEIN IS +360 MV.
-!- SUBGELLULAR LOCATION: PETIDISENIC.
-!- SUBGELLULAR LOCATION: PETIDISENIC.
                                                                                                                                                                                                                                                                                                                                                                                                        PURDINE-96216867; PubMed-8639555, MEDLINE-96216867; PubMed-8639555; Paperrop D., Bertini I., Cappozi F., Dikiy A., Eltis L., Luchinat C.; Entrope D., Bertini I., Cappozi F., Dikiy A., Eltis L., Luchinat C.; Three-dimensional structure of the reduced C77S mutant of the Chromatium vinosum high-potential iron-sulfur protein through nuclear magnetic resonance: comparison with the solution structure of the wild-type protein."; Biochemistry 35:5928-5936 (1996).
                                                                                                                                                                                                MEDLINE-9559166; PubMed=7632685; Bertini I., Dikiy A., Kastrau D.H., Luchinat C., Sompornpisut P.; Bertini I., Dikiy A., Kastrau D.H., Luchinat C., Sompornpisut P.; "Three-dimensional solution structure of the oxidized high potential iron-sulfur protein from Chromatium vinosum through NMR. Comparative analysis with the solution structure of the reduced species."; Biochemistry 34:9851-9858 (1995).
                                  Sompornpisut P.; "There-dimensional solution structure of the reduced high-
"The three-dimensional protein from Chromatium vinosum through NMR.";
potential iron-sulfur protein from Chromatium vinosum through NMR.";
Biochemistry 34:206-219(1995).
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R PDB; JHRP; 15-APR-93.

R PDB; JHRR; 31-JUL-95.

R PDB; JHRR; 31-JUL-95.

R PDB; JNBH; 96-MAR-96.

R PDB; JNBH; 96-MAR-96.

R PDB; JROY; 16-DEC-98.

R PDB; JEWY; JRAMAY-99.

R PROSINCS; PROSONO170; Hipot_ironsulf.

R PROSINCS; PROSONO374; HIPIPP; JL.

R PROSINCS; PROSONO374; HIPIPP; JL.

R PROSINCS; PROSONO574; HIPIPP; JL.

R PROSUPR; PROSONO574;
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IRON-SULFUR (4FE-4S).
IRON-SULFUR (4FE-4S).
IRON-SULFUR (4FE-4S).
N -> D (IN REF. 3).
L., Bertini I., Dikiy A., Kastrau D.H.W., Luchinat C.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MEDLINE=20003126; PubMed=10531472; Parisini E., Capozzi F., Lubini P., Lamzin V., Luchinat C.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        X-RAY CRYSTALLOGRAPHY (0.93 ANGSTROMS).
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STRAILE J / AICC 17899 / DSM 180;
MEDLINE=97320627; Pubmed=9177478;
Bruser T., Truper H.G., Dahl C.;
"Cloning and sequencing of the gene encoding the high potential ironsulfur protein (HiPPI) from the purple sulfur bacterium Chromatium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaillard J., Albrand J. P., Moulis J.-M., Wemmer D.E.; sequence-specific assignments of the 1H nuclear magnetic resonance spectra of reduced high-potential ferredoxin (HiPIP) from Chromatium
                                                                     Gaps
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MEDILINES-4012043; PubMeda-4745771;
Dus K., Tedro S., Bartsch R.G.;
"The complete amino acid sequence of Chromatium high potential iron
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MEDILINE-810940315, PubMed-145141;

Tedro S.M., Meyer T.E., Bartsch R.G., Kamen M.D.;

Tedro S.M., Meyer T.E., Bartsch R.G., Kamen M.D.;

"Primary structures of high potential, four-iron-sulfur ferredoxins from the purple sulfur photosynthetic bacteria, Thiocapsa roseopersicina and Chromatium gracile.",

J. Biol. Chem. 256:731-735(1981).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Bartsch R.G.; "2-A crystal structure of oxidized Chromatium high potential iron
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Carter C.W. Jr., Kraut J., Freer S.T., Xuong N.H., Alden R.A.,
Bartsch R.G.;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Bacteria, Proteobacteria, gamma subdivision, Chromatiaceae, Allochromatium.
            Length 114;
                                                                     Indels
                                                                                                                                                                                                                                                                                                               HPIS CHRVI STANDARD; PRT; 122 AA. P00260; P96755; Q9R4K3; 2-1JJJJ-1986 (Rel. 0.1), Created) 15-DEC-1998 (Rel. 37, Last sequence update) 15-JUN-2002 (Rel. 41, Last annotation update) High potential iron-sulfur protein precursor (HiPIP).
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         69.4%; Score 25; DB 1;
100.0%; Pred. No. 74;
ive 0; Mismatches 0
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                sulfur protein.";
J. Biol. Chem. 248:7318-7331(1973).
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MEDLINE=95118989; PubMed=7819198;
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Best Local Similarity
Matches 4; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                             MEDLINES PROM N.A. MEDLINES AND STATE OF THIS PROPERTY. MICHAER S. M. SETLESSENTIAN C., Crawford J., Lower K.M., McCallum B., Seshadri R., Cornelisse C.J., Moerland E.W., Cleton-Jansen A.-M., Tipping A.J., Marhew C.G., Savnio, M., Savoida A., Verlander P., Auerbach A.D., Van Berkel C., Fronk J.C., Doggett N.A., Callen D.F.; Auerbach A.D., Van Berkel C., Fronk J.C., Doggett N.A., Callen D.F.; specific 11 (Gall) and creening for mutations of the growth arrest specific 11 (Gall) and Cleorf3 genes at 16q24.3 in breast cancer.", Genomics 52:325-331(1998).
                                                                                     Gaps
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Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
NCBI_TaxID=9606;
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                                                Query Match 69.4%; Score 25; DB 1; Length 122; Best Local Similarity 100.0%; Pred. No. 79; Matches 4; Conservative 0; Mismatches 0; Indels
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     72 72 D->G: 100% ACTIVITY LOSS. 122 AA; 14431 MW; C4374CE90E16D1D3 CRC64;
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125 AA; 12619 MW; ACCA40DBEE0A79B4 CRC64;
                                                                                                                                                                                                                                                    16-OCT-2001 (Rel. 40, Created)
16-OCT-2001 (Rel. 40, Last sequence update)
15-UNN-2002 (Rel. 41, Last annotation update)
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30-MAY-2000 (Rel. 39, Last sequence update)
30-MAY-2000 (Rel. 40, Last annotation update)
30S ribosomal protein $3Ae.
RPS3AE OR AF2320.
Archaeoglobus fulgidus.
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                                                                                                                                                                                                                            STANDARD;
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VARIANT 47 54
                                                                                                                                                                                                                                                                                                                                      Homo sapiens (Human)
                                                                                                                                                                                                                          CP03 HUMAN
095177; 095176;
                                                                                                                                              112 WTLK 115
                                                                                                                7 WTLK 10
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027964;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE
                    SEQUENCE
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      MUTAGEN
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RS3A_ARCFU
1D RS3A_AI
AC 02795A
DT 30-MAY
DT 16-OCT
DD 16-OCT
DD 16-OCT
DD 30-MAY
DT 30-MAY
                                                                                                                                                                                                            CP03 HUMAN
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Matches
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                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDLINE=92279264; PubMed=1594613;
Jozwik C.E., Miller E.S.;
Jozwik C.E., Miller E.S.;
Wegions of bacteriophage T4 and RB69 RegA translational repressor proteins that determine RNA-binding specificity.";
Proc. Natl. Acad. Sci. U.S.A. 89:5051-5057(1992).
-!- FUNCTION: CONTROLS THE TRANSLATION OF A NUMBER OF PROTEINS (SUCH AS REGA ITSELF, RIIB AND AT LEAST 35 OTHERS) BY BINDING TO THEIR MRNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Bacteriophage RB69.
Viruses: deDNA viruses, no RNA stage; Caudovirales; Myoviridae;
T4-like viruses:
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0
                                                                                                                                                                                                                                                                                                                                               69.4%; Score 25; DB 1; Length 122; 100.0%; Pred. No. 79; cive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    InterPro; 1PR002702; Translat reg.
Pfam; PF01818; Translat reg; Translat reg; Translat reg; Translat reg; Translat reg; Translat reg; Translation regulation; Represeor; DNA-binding.

MUNAGEN 24 I ->T ACTIVITY ALTERED.

MUTAGEN 25 25 A->V: 100% ACTIVITY LOSS.

MUTAGEN 37 37 H->Y: 100% ACTIVITY LOSS.
                                                                                                                                                                                                                                                                                                                 12761 MW; ACBBAFC917F32A09 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            BEGA BPR69 STANDARD; rn., CD1751; 15-DEC-1998 (Rel. 37, Created) 15-DEC-1998 (Rel. 37, Last sequence update) 15-DEC-1998 (Rel. 37, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EMBL; M86231; AAA32295.1; -. HSSP; P04528; 1REG.
                                                                                                                                                                                                                                                                                                                                                            Local Similarity 100.
 55
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                                                                                                                                                                                                                                                                                                                 122 AA;
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les 4; Conservative
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                                                                                                                                                        Best Local Similarity
                                                                                          Early protein.
SEQUENCE 212
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P54149;
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ID MSRA BA
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DT 01-OCT
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ID Y363 F
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                                                                         MEDLINE=98040343; PubMed=9389475;
MEDLINE=98040343; PubMed=9389475;
MEDLINE=98040343; PubMed=9389475;
MEDLINE=98040343; PubMed=9389475;
Ketchum K.A., Dodson R.A., Tomb J.-F., white O., Nelson K.E.,
Richardson D.L., Kerlavage A.R., Graham D.E., Kyrpides N.C.,
Richardson D.L., Kerlavage A.R., Graham D.E., Kyrpides N.C.,
Fleischmann R.D., Quackenbush J., Lee N.H., Sutton G.G., Gill S.,
Kirkness E.F., Dougherty B.A., McKenney K., Adams M.D., Loftus B.,
Peterson S., Reich C.I., McNeil L.K., Badger J.H., Glodek A., Zhou L.,
Overbeek R., Gocayne J.D., Weidman J.F., McDonald L., Utterback T.,
Cotton M.D., Spriggs T., Artiach P., Kaine B.P., Sykes S.M.,
Sadow P.W., D'Andrea K.P., Bowman C., Pujii C., Garland S.A.,
Mason T.M., Olsen G.J., Fraser C.M., Smith H.O., Woese C.R.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
MEDLINE-85166175; PubMed=2984661;
Giri I., Danos O., Yaniv M.;
"Genomic structure of the cottontail rabbit (Shope) papillomavirus.";
Proc. Natl. Acad. Sci. U.S.A. 82:1580-1584(1985).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                reducing archaeon Archaeoglobus fulgidüs.";
Nature 30:1364-370/180109 TO THE S3AE FAMILY OF RIBOSOMAL PROTEINS.
-!- SIMILARITY: BELLONGS TO THE S3AE FAMILY OF RIBOSOMAL PROTEINS.
                                                                                                                                                                                                                                                                               "The complete genome sequence of the hyperthermophilic, sulphate-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Cottontail rabbit (shope) papillomavirus (strain Kansas) (CRPV). Viruses; dsDNA viruses, no RNA stage; Papillomaviridae; Papillomavirus. NCBI_TaxID=31553;
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1, 3463C7042B0F2796 CRC64;
 Archaea; Euryarchaeota; Archaeoglobi; Archaeoglobales;
Archaeoglobaceae; Archaeoglobus.
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Similarity 100.0%; Pred. No. 1.4e+02;
4; Conservative 0; Mismatches 0;
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21-JUL-1986 (Rel. 01, Last sequence update)
01-OCT-1996 (Rel. 34, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 InterPro IPR001593; Ribosomal_S3AE.
Faffan, PR01015; Ribosomal_S3Ae, 1.
ProDom; PD003059; Ribosomal_S3AE; 1.
PROSITE; PS01191; RIBOSOMAL_S3AE; FALSE_NEG.
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SEQUENCE 211 AA; 24334 MW;
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Best Local Similarity
Matches 4; Conserva
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P03124;
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oved. Usage by and for commercial (See http://www.isb-sib.ch/announce/
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01-007-1996 (Rel. 34, Last sequence update)
15-UN-2002 (Rel. 41, Last annotation update)
Peptide methionine sulfoxide reductase (BC 1.8.4.6) (Proteinmethionine-9-oxide reductase) (Peptide Met (0) reductase).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Rickettsia prowazekii.
Bacteria; Proteobacteria; alpha subdivision, Rickettsiales;
Rickettsiaceae; Rickettsieae; Rickettsia.
WCBI_TaxID=782;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               69.4%; Score 25; DB 1; Length 218; 100.0%; Pred. No. 1.4e+02; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                          Length 212;
                                                                                                                                                                                                                                                                                                                 0; Indels
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SEQUENCE 218 AA; 25780 MW; 2D8BDD7DB938F954 CRC64;
                                                                                                                                                                                                     212 AA; 24104 MW; 9FB8DA3F814ADB5B CRC64;
                                                                                                                                                                                                                                                          DB 1; Le 1.4e+02;
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Similarity 100.0%; Pred. No. 1.4
4; Conservative 0; Mismatches
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PIR; A03674; W4WLRB.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
STRAIN=Madrid E;
MEDLINE=99039499; PubMed=9823893;
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MEDLINE=95309399; PubMed=7789512;
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Matches 4; Conservat
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                                                                                                                                                                                                                                                                                                                               X-RAY CRYSTALLOGRAPHY (1.6 ANGSTROMS).
MEDLINE-20519025; PubMed=11063566,
Lowther W.T., Brot N., Weissbach H., Matthews B.W.;
"Structure and mechanism of peptide methionine sulfoxide reductase, an
                                                                                                                                                                                                                                                                                                                                                                                                                     'anti-oxidation' enzyme.";
Biochemistry 39:13307-13312 (2000).
-!- FUNCTION: HAS AN IMPORTANT FINCTION AS A REPAIR ENZYME FOR
PROTEINS THAT HAVE BEEN INACTIVATED BY OXIDATION. CATALYZES THE
REVERSIBLE OXIDATION-REDUCTION OF METHIONINE SULFOXIDE IN PROTEINS
                                                                                                                                                                        TISSUE=Adremal medulla, MEDLINE=96112545; PubMed=8700890; Moskovitz J., Welssbach H., Brot N., "Cloning the expression of a mammalian gene involved in the reduction of methionine sulfoxide residues in proteins.", Proc. Natl. Acad. Sci. U.S.A. 93:2095-2099(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TO METHIONINE.
CATALTIC SCTIVITY: Protein L-methionine + oxidized thioredoxin = protein L-methionine S-oxide + reduced thioredoxin.
SIMILARITY: BELONGS TO THE MSRA MET SULFOXIDE REDUCTASE FAMILY.
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lic-OCT-2001 (Rel. 40, Last annotation update)
lic-OCT-2001 (Rel. 40, Last annotation update)
Procteasome activator complex subunit 2 (Proteasome activator 28-beta subunit) (PA28beta) (PA28b) (Activator of multicaralytic protease subunit 2) (11S regulator complex beta subunit) (Reg-beta)
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
                                            Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Butheria, Cetartiodactyla, Ruminantia, Pecora, Bovoidea,
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Pfam; PF01625; PMSR; 1.
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PMSR; I.
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                                                                                      Bovidae; Bovinae; Bos.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PDB; 1FVA; 08-NOV-00.
PDB; 1FVG; 08-NOV-00.
                      taurus (Bovine)
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SEQUENCE FROM N.A.
                                                                                                                                                       SEQUENCE FROM N.A.
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                                                                                                     NCBI_TaxID=9913;
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B1 WTLK 84
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PSE3_AC

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This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the ENBL outstation the Buropean Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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                                                                                                                         "Primary Structures of two homologous subunits of PA28, a gamma-interferon-inducible protein activator of the 20S proteasome."; FBBS Lett. 366:37-42(1995).

-!- FUNCTION: Implicated in immunoproteasome assembly and required for efficient antigen processing. The PA28 activator complex enhances the generation of class I binding peptides by altering the cleavage pattern of the proteasome.
-!- SUBUNIT: HETERODIMER OF PSME1 AND PSME2, WHICH FORMS A HEXADIMERIC
Ahn J.Y., Tanahashi N., Akiyama K., Hisamatsu H., Noda C., Tanaka K.,
Chung C.H., Shibmara N., Willy P.J., Mott J.D., Slaughter C.A.,
DeMartino G.N.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 16-OCT-2001 (Rel. 40, Created)
16-OCT-2001 (Rel. 40, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
16-OCT-2001 (Rel. 40, Last annotation update)
Proteasome activator complex subunit 2 (Proteasome activator 28-beta subunit) (PA28beta) (PA28b) (Activator of multicatalytic protease subunit 2) (11S regulator complex beta subunit) (REG-beta).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 McCusker D., Wilson M., Trowsdale J.;
"Organization of the genes encoding the human proteasome activators
PA28 alpha and PA28 beta.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Bukaryota, Metazoa, Chordata, Craniata, Vertebrata, Buteleostomi,
Mammalia, Butheria, Primates, Catarrhini, Hominidae, Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    "Primary structures of two homologous subunits of PA28, a gamma-
interferon-inducible protein activator of the 20S proteasome.";
FRBS Lett. 366:37-42(1995).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    238 AA; 26857 MW; AFA0F013CECE1CD3 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -!- INDUCTION: BY INTERFERON GAMMA.
-!- SIMILARITY: BELONGS TO THE PA28 FAMILY.
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MEDLINE=99216442; PubMed=10199920;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  HSSP, Q06323; 1AVO.
InterPro; IPR003185; PA28 alpha.
InterPro; IPR003186; PA28_beta.
Pfam; PP02251; PA28 alpha; 1.
Pfam; PF02252; PA28_beta; 1.
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Search completed: January 29, 2003, 10:45:08 Job time : 7.81818 secs

7 WTLK 10 |||| 112 WTLK 115

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Q995r3 celleporell
Q98Ba7 hizobium 1
Q97868 clostridium
Q938a8 staphylococ
G64107 bacteriopha
O34401 bacillus su
Q8xig7 clostridium
Q9acr1 streptomyce
Q97uc8 sulfolobus
Q9fus macaca fasc
Q9fus mush musculu
Q9fus clostridium
Q9fus clostridium
Q9fus clostridium
Q9fus clostridium
Q9fus sulfolobus
Q97cs sachylococ
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                                                                                                                                                                                                                                                                                                                                                 Mus musculus (Mouse).
Bukaryota, Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
Mammalia; Butheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
NCBI_TaxID=10090;
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0
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Submitted (JAN-2001) to the EMBL/GenBank/DDBJ databases.
SMBD, RG002300; AAH02300.1; -.
MGD; MGI:1918149; 4921519L13Rik.
Hypothetical protein.
SEQUENCE 46 AA, 5337 MW; 704F20C15D045368 CRC64;
                                                                                                                                                                                                                                                                                                         01-JUN-2001 (TrEMBLrel. 17, Created)
01-JUN-2001 (TrEMBLrel. 17, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
Hypothetical 5.3 kDa protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Created)
Last sequence update)
Last annotation update)
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               Q97E68
Q93SA8
O64107
                                      034401
Q8XIG7
Q9ACR1
Q97UR8
                                                                                      Q9M673
Q9NME6
Q8XP60
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Q97YE2
Q97TX2
Q93RE2
O11842
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Q9YF51
P91046
Q03418
Q9FHQ9
       Q988A7
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                                                                      095LW6
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01-MR-2002 (TrEMBLrel. 20, Crt
01-MAR-2002 (TrEMBLrel. 20, Lat
01-MRR-2002 (TrEMBLrel. 20, Lat
Hypothetical protein MI1746.1at
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116
116
117
110
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110
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PRELIMINARY;
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7 WTLK 10
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Q99LN4
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                                                                                                                                                                                                                                                                          RESULT 1
099LN4
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Q8VJY9
유
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OBALYS homo sapien
OBYWAZB anabaena sp
O98260 gadus morhu
091913 cultax nigri
09427 homo sapien
06764 garlic late
091001 human immun
086018 cottontail
                                                                                                                                                                                                                                                                                                                                                                                                                                                             Q991n4 mus musculu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Q8vjy9 mycobacteri
Q8vah9 white spot
Q9w7k4 naja haje.
                                                           (without alignments)
128.779 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                    Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                Description
                                                   January 29, 2003, 10:40:47; Search time 24 Seconds
     GenCore version 5.1.3
Copyright (c) 1993 - 2003 Compugen Ltd.
                                                                                                                                                       Total number of hits satisfying chosen parameters:
                                                                                                                                         671580 seqs, 206047115 residues
                                  OM protein - protein search, using sw model
                                                                                                                                                                                                Post-processing: Minimum Match 0*
Maximum Match 100*
Listing first 45 summaries
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Q91QC1
Q8QDN8
Q85061
Q96C09
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Q9W7K4
Q8VUW6
Q9H1X5
Q8YWZ8
Q98Z60
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Q9AR33
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Q8VJY9
                                                                                                                           Gapop 10.0 , Gapext 0.5
                                                                                                                                                                                                                                      sp_archa: *
sp_archa: *
sp_bacteria: *
sp_hungi: *
sp_numan: *
sp_numan: *
sp_nammal: *
sp_nammal: *
sp_phage: *
sp_plant: *
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sp_unclassified:*
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sp_bacteriap:*
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Match Length DB ID
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Maximum DB seq length: 200000000
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112
115
115
4
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Perfect score:
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SEQUENCE FROM N.A.
SEQUENCE FROM N.A.
SEQUENCE FROM N.A.
TISSUE=STELETAL MUSCLE;
MEDLINE=21396406; PubMed=11504859;
Takecs Z., Wilhelmasen K.C., Sorota S.;
Takecs alpha-Neurotoxin Binding Site on the Egyptian Cobra (Naja haje)
Nicotinic Acetylcholine Receptor Is Conserved.";
Mol. Biol. Evol. 1871800-1809 (2001).
EMBL; AF077763; AAA43963.1; -
InterPro; IPR000566; Lipocln_CytFABP.
InterPro; IPR001175; Neur_channel.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Eukaryoča; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Lepidosauria; Squamata; Scleroglossa; Serpentes; Colubroidea;
Elapidae; Elapinae; Naja.
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Bacteria; Firmicutes; Bacillus/Clostridium group; Bacillales;
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                                                                                                                                                                                                                                                        69.4%; Score 25; DB 12; Length 60; 100.0%; Pred. No. 2.3e+02; ative 0; Mismatches 0; Indels
                             STRAIN-TAIWAN;
Lo C.F., (C.F., )
Lo C.F., (C.G.-H., )
EMBL, AR32003; AAL3347.1;
EMBL, AR32003; AAL3347.1;
EMBL, AR440570, AAL89542.1;
EMBC, AR460570, AAL89542.1;
EMCURCE 60 BA, 7091 MM; 4B4D84190256B053 CRC64;
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64 64
64 AA; 7639 MW; 92414F6F166DB2F4 CRC64;
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01-MRA-2002 (TrEMBLrel. 20, Last sequence update)
01-MRA-2002 (TrEMBLrel. 20, Last annotation update)
0RF13.
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                                                                                                                                                                                                                                                                                                Local Similarity 100.
nes 4; Conservative
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SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Staphylococcus.
NCBI_TaxID=1290;
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NON_TER
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Best Local S
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Q9W7K4;
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Q9W7K4
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                                                                                                                                                                                                         SEQUENCE FROM N.A. STRAIN-CDC 1551 / OSHKOSH;
STRAIN-CDC 1551 / OSHKOSH;
Fleischmann R.D., Alland D., Eisen J.A., Carpenter L., White O., Peterson J., Deboy R., Dodson R., Gwinn M.L., Haft D., Hickey E., Kolonay J.F., Nelson W.C., Umayam L.A., Ermolaeva M.D., Salzberg S.L., Delcher A., Utterback T., Weldman J., Khouri H., Gill J., Mikula A.,
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MEDLINE=20517548; PubMed=11062040;
Tsai M.F., in H.T., Tzeng H.F., Leu J.H., Chou C.M., Huang C.J.,
Wang C.H., Lin J.Y., Kou G.H., Lo C.F.;
"Identification and characterization of a shrimp white spot syndrome
virus (WSSV) gene that encodes a novel chimeric polypeptide of
cellular-type thymidine kinase and thymidylate kinase.";
Virology 277:100-110(2000).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                           Mycobacterium tuberculosis.
Bacteria, firmicutes, Actinobacteria, Actinobacteridae;
Actinomycetales, Corynobacterineae, Mycobacteriaceae, Mycobacterium.
                                                                                                                                                                                                                                                                                                                                                                                                                                "Whole genome comparison of Mycobacterium tuberculosis clinical and laboratory strains."; Submitted (APR-2001) to the EMBL/GenBank/DDBJ databases. EMBL, RE007036; AAK46016.1; ...
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BEDLINE-21548311; PubMed=11689662;

Yang F., He J., Lin X., Lin Q., Pan D., Zhang X., Xu X.;

"Complete genome sequence of the shrimp white spot bacilliform
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       69.4%; Score 25; DB 16; Length 54; 100.0%; Pred. No. 2e+02; tive 0; Mismatches 0; Indels
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Yang F., He J., Lin X., Li Q., Pan D., Zhang X., Xu X.;
Submitted (DEC-2000) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MBLI, ALL-V.
TIGR; MT1746; -.
IVGR; MT1746; -.
IVGR; MT1746; -.
IVGRICAL BY AA; 5927 MW; 22E554F875A81BAF CRC64;
TOTIRNCE 54 AA; 5927 MW; 22E554F875A81BAF CRC64;
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01-MAR-2002 (TREMBLrel. 20, Last sequence update)
01-MAR-2002 (TREMBLrel. 21, Last annotation update)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    White spot syndrome virus (WSSV). Viruses; unclassified viruses. NCBI_TaxID=92652;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                J. Virol. 75:11811-11820(2001).
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                                                                                                                                              NCBI_TaxID=1773;
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SEQUENCE 54
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Persson A.C., Stet R.J.M., Pilstroem L., "Characterization of MHC class I and beta2-microglobulin sequences in Atlantic cod reveals an unusaully high number of expressed class I
                                                                                                                                                                                                                   Gaps
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SEQUENCE FROM N.A.

STATAIN=FUNDIDALISP.

AFOTINE-21488685; Pubhed=11602755;

Afonso C.L., Tulman E.R., Lu Z., Balinsky C.A., Moser B.A.,

Afonso C.L., Tulman E.R., Kutish G.F.;

"Genrome Sequence of a Bacultovirus Pathogenic for Culex nigripalpus.";

J. Virol. 75:11157-11165(2001).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GAMR UA-PAL 4. Gadus mortua (Atlantic cod).
Bukaryota, Metazoa; Chordata, Craniata; Vertebrata; Buteleostomi;
Actinopteryoti; Meopterygii; Teleostei; Buteleostei; Neoteleostei;
Acanthomorpha; Paracanthopterygii; Gadiformes; Gadidae; Gadus.
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                                                                                                                                   69.4%; Score 25; DB 16; Length 70; 100.0%; Pred. No. 2.6e+02; Live 0; Mismatches 0; Indels
                                                                                                                                                                                                           0; Indels
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                       Hypothetical protein; Complete proteome. SEQUENCE 70 AA; 8009 MW; 764CESF9AC236DDA CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            72 AA; 8264 MW; FB260EAB403169BE CRC64;
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Viruses; dsDNA viruses, no RNA stage; Baculoviridae.
VCBI_TaxID=130556;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  01-MAY-1999 (TrEMBLrel. 10, Created)
01-MAY-1999 (TrEMBLrel. 10, Last sequence update)
01-UNV-2002 (TrEMBLrel. 21, Last annotation update)
MMC class I antigen (Fragment)
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01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
CUN094 hypothetical protein.
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BEML; AJ13450. CABSB040.1; -.
ILLEFPCo; IPR001039; MHC_I.
ProDom; PD000050; WHC_I; -1.
NON_TER 72 72
SEQUENCE 72 AA; 8264 MW; FB26
                                                                                                                       Query Match
Best Local Similarity 100.(
Matches 4, Conservative
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Best Local Similarity 100.
Matches 4; Conservative
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TISSUE=SPLEEN;
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**REDILINE_21595285; PubMed=11759840;

**REDILINE_21595285; PubMed=11759840;

**Raneko T., Nakamura Y., Wolk C.P., Kuritz T., Sasamoto S.,

**Raneko T., Iriguchi M., Ishikawa A., Kawashima K., Kimura T.,

**Rishida Y., Shimpo S., Sugimoto M., Matsumo A., Muraki A.,

**Razaki N., Shimpo S., Sugimoto M., Takazawa M., Yamada M.,

**Razaki N., Tabata S.;

**Complete genomic sequence of the filamentous nitrogen-fixing

**Complete genomic sequence of the filamentous nitrogen

**Complete genomic sequence of the filamentous nitrogen

**Complete genomic sequence of the filamentous nitrogen

**Complete genomic sequence of 
Katayama Y., Ito T., Hiramatsu K.;
"Localization of staphylococcal cassette chromosome in methicillin susceptible Staphylococci.",
submitted (JUN-2001) to the EMBL/GenBank/DDBJ databases.
EMBL; AB063171; EAB83492.1; -..
SEQUENCE 68 AA; 7842 MW; 57892E6E56D470DC CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          01-WAR-2001 (TrEMBLrel. 16, Created)
01-WAR-2001 (TrEMBLrel. 16, Last sequence update)
01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
BA16L21.1.3 (NADP-dependent leukotriene B4 12-hydroxydehydrogenase (isoform 3)).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Bukaryota, Metazoa, Chordata, Craniata, Vertebrata, Buteleostomi,
Mammalia, Butheria, Primates, Catarrhini, Hominidae, Homo.
NCBI_TaxID=9606;
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Bacteria; Cyanobacteria; Nostocales; Nostocaceae; Nostoc.
NCBI_TaxID=103690;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Laird G.;
Submitted (DEC-2000) to the EMBL/GenBank/DDBJ databases.
EMBL; Ali35/87; CAC22152.1; -.
SEQUENCE 70 AA; 7983 MW; E77FF1214CF13142 CRC64;
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01-WAR-2002 (TrEMBLrel. 20, Last sequence update)
01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
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ASil421.
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Best Local Similarity 100.v
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09H1X5
09H1X9
0PH1
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0FT 01-M2
0FT 01-M3
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Clark G.;
Submitted (FEB-2001) to the EMBL/GenBank/DDBJ databases.
EMBL; ALIO9806; CAC03742.1; -.
SEQUENCE 94 AA; 11060 MW; E0AB7D817888A06C CRC64;
                                                                                                                                                                                                                                                                                                                                      PRT;
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Arch. Virol. 145:1021-1027(2000).
EMBL, AB034233; BAA39370.1; -.
InterPro; IPR000012; RetroV_VpR/X.
Pfam; PF06222; VPR; 1.
PRINTS; PR00444; HIVUPRVPX.
                                                                                                   Query Match 69.49
Best Local Similarity 100.9
Matches 4; Conservative
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les 4; Conservative
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VPR.
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Q67664;
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Q9IQC1
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Eukaryote; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae;
Ehrhartoideae; Oryzeae; Oryza.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Homo sapiens (Human).
Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammaila, Eutheria, Primates, Catarrhini, Hominidae, Homo.
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STRAIN-CV. MIPPOWBARE;
SARAKI T., Matsumoto T., Yamamoto K.;
"Cryza sativa nipponbare(GA3) genomic DNA, chromosome 1, PAC
clone:P0537A05.
Submitted (NOV-2000) to the EMBL/GenBank/DDBJ databases.
                    Afonso C.L., Tulman E.R., Lu Z., Balinsky C.A., Moser B.A., Becnel J.J., Rock D.L., Kutish G.F.; Submitted (UUL-2001) to the EMBL/GenBank/DDBJ databases. EMBL/A+403739; AAK94772.1; -. Hypotherical protein. SEQUENCE 89 AA; 10561 MW; 01F0A22D2C792541 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  h 69.4%; Score 25; DB 10; Length 92; Similarity 100.0%; Pred. No. 3.40+02; 4; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                    Query Match 69.4%; Score 25; DB 12; Length 89; Best Local Similarity 100.0%; Pred. No. 3.38+02; Matches 4; Conservative 0; Mismatches 0; Indels
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01-MAR-2001 (TrEMBLrel. 16, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
DJ1153D9.3 (novel protein).
                                                                                                                                                                                                                                                                                                                                                                                                                                            01-UNN-2001 (TrEMBLrel. 17, Created)
01-UNN-2001 (TrEMBLrel. 17, Last sequence update)
01-UNN-2001 (TrEMBLrel. 17, Last sequence update)
01-UNN-2001 (TrEMBLrel. 17, Last annotation update)
P0537A05.26 protein (P0554D10.2 protein).
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         STRAIN=FLORIDA1997;
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58 WTLK 61
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Q9AR33;
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Matches
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09AR3
AC 09AR3
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DT 01-JUJ
DT 01-JUJ
DE 01-JUJ
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MEDLINE=20338596; PubMed=10881687;
MEDLINE=20338596; PubMed=10881687;
MEDLINE=20338596; PubMed=10881687;
"Comparison of proviral accessory genes between long-term nonprogressors and progressors of human immunodeficiency virus type 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
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                                                           Gaps
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Garlic latent virus E29-6.
Viruses; SSRNA positive-strand viruses, no DNA stage; Carlavirus.
NCBI_TaxID=143616;
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Similarity 100.0%; Pred. No. 3.6e+02;
4; Conservative 0; Mismatches 0; Indels
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Choi J.N., Choi Y.D., Lee J.S.;
and J.N., Choi Y.H., Choi Y.D., Lee J.S.;
Submitted (JUN-1992) to the EMBL/GenBank/DDBJ databases.
EMBL; X67134; CAA47614.1;
EMBL; X67134; CAA47614.1;
SEQUENCE 96 AA: 10771 NW; A48BD84E2F7CF25A CRC64;
     Length 94;
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01-0cr-2000 (TrEMBLrel. 15, Last sequence update)
01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
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Viruses; Retroid viruses; Retroviridae; Lentivirus.
NCBI_TaxID=11676;
                                                                                                                                                                                                                                                                                                                                                01-NOV-1996 (TrEMBLrel. 01, Created)
01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
69.4%; Score 25; DB 4; Lt
100.0%; Pred. No. 3.5e+02;
tive 0; Mismatches 0;
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STRAIN-WASHINGTON B;
MEDLINE-BS166175, PubMed=2984661;
Giri I., Danos O., Yaniv M.;
"Genomic structure of the cottontail rabbit (Shope) papillomavirus.";
Proc. Natl. Acad. Sci. U.S.A. 82:1580-1584(1985).
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"Papilloma Formation by Cottontail Rabbit Papillomavirus (GRPV)
Requires El and E2 Regulatory Genes in Addition to the E6 and E7
Transforming Genes.";
J. Virol. 0:0-0(1994).
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01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last amotation update)
Papillomavirus sylvilagi Washington B (E2) and (E4) genes
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Viruses; dsDNA viruses, no RNA stage; Papillomaviridae;
Papillomavirus.
Vill_TaxID=10623;
                                                                                                                                                                                                                                                         01-UNN-2002 (TrEMBLrel. 21, Created)
01-UNN-2002 (TrEMBLrel. 21, Last sequence update)
01-UNN-2002 (TrEMBLrel. 21, Last annotation update)
Vpr protein.
                                                                                                                                                                                                                                                                                                                                                                                                        Simian-Human immunodeficiency virus.
Viruses; Retroid viruses; Retroviridae; Lentivirus.
VGI_TaxID=57667;
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STRAIN=WASHINGTON B;
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STRAIN=1B3;
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7 WTLK 10
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18 WTLK 21
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Best Local Si
Matches 4;
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0800N
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15. (\$IDS2/gcgdata/geneseqf/geneseqp-embl/AA1992.DAT:*
16. (\$IDS2/gcgdata/geneseqf/geneseqp-embl/AA1992.DAT:*
17. (\$IDS2/gcgdata/geneseqf/geneseqp-embl/AA1992.DAT:*
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19. (\$IDS2/gcgdata/geneseqf/geneseqp-embl/AA1992.DAT:*
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24. (\$IDS2/gcgdata/geneseqf/geneseqp-embl/AA2001.DAT:*
25. (\$IDS2/gcgdata/geneseqf/geneseqp-embl/AA2001.DAT:*
27. (\$IDS2/gcgdata/geneseqf/geneseqp-embl/AA2001.DAT:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Jescription	Pan DR binding non	n TSH recentor	n Ton receptor	n in receptor	T Daniel Ding	D binder pent	Darbinging nen	De-binding per	o (nan-DP hind	Padre (pan-DR bind
Descr	red.	E MILITA	Hima	Pan-	BUAG	Dan-	T L L	red	Dadr	Padr
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QI	AAW50120	AAR73328	AAR73329	AAY79540	AAE19459	AAU09839	AAR70249	AAR70250	AAW22120	AAW22121
DB	19	16	16	21	23	23	16	16	18	18
* Query e Match Length DB ID	4	8	80	11	11	11	13	13	13	13
% Query Match	69.4	69.4	69.4	69.4	69.4	69.4	69.4	69.4	69.4	69.4
Score	25	25	25	25	25	25	25	25	25	25
Result No.	-	7	М	4	S	9	7	60	6	10

Pan DR binding pep Promiscuous T help Universal helper T Pan-DR binding pep Pan-DR binding pep Pan-DR-binding Pep Pan-DR-BANDING PER PANDER Amyloid beta/PADRE Amman cytomegalovi Human cytomegalovi Human cytomegalovi Peptide #4206 enco	r site; MHC molecule; e A, Sidney J; all DR alleles - inhibiting
AAW50125 AAW50126 AAB52689 AAB73644 AAB99709 AAB99710 AAB99710 AAB99711 AAB99711 AAB20154 AAB20154 AAB20154 AAB20154 AAB20154 AAB20154 AAB20154 AAB20154 AAB20154 AAB20154 AAB3010048 AAU10048 AAU10048 AAU10039 AAB46182 AAB461836 AAU10836 AAU10843	inding Sett Sett
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2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	50120; 50120; JUN-19 DR bi locus. thetic 736142 APR-19 SEP-19 SEP-19 SEP-19 TE-) C; 1998;
11111111111222222222222222222222222222	RESULT I AAM SO120 AAM XX AX

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Peptides with affinity to human TSH (thyroid stimulating hormone) receptor antibody are used for detection of the antibody. (See also AAR73201-592).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Antigen presenting cell; T-lymphocyte; T-cell; immunomodulator; autoimmune disease; allergy; cancer; infection; graft rejection; immunotherapy; therapy; pan-DR binding peptide; PADRE; antigen.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Novel polypeptide(s) having affinity for the human TSH receptor antibody - used in detection of the TSH antibody.
                                                                                                                                                                         thyroid stimulating hormone receptor; TSH; human; Homo sapiens; antibody; affinity; detection.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match 69.4%; Score 25; DB 16; 1
Best Local Similarity 100.0%; Pred. No. 7.8e+05;
Matches 4; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /note= "cyclohexylalanine"
                                                                                                                                                                                                                                                                                                                                                                                                               (MITP ) MITSUBISHI PETROCHEMICAL CO LID
                                                                                                                                       Human TSH receptor (residues 257-264)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Pan-DR binder peptide PADRE 965.10.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAY79540 standard; Peptide; 11 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Claim 1; Page 23; 54pp; Japanese.
                               AAR73329 standard; Peptide; 8 AA.
                                                                                                                                                                                                                                                                                                                                                                               93JP-0240853
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 8 AA;
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Modified-site
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                                                                                                                                                                                                                                                                                                                                                                             28-SEP-1993;
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                                                                                                                                                                                                                                                                     JP07089991-A
                                                                                                                                                                                                                                                                                                                                             28-SEP-1993;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              7 WTLK 10
                                                                                                       12-DEC-1995
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                                                                                                                                                                                                                                   Synthetic.
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                                                                     AAR73329;
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AAY79540
RESULT 3
                 AAR73329
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                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Peptides with affinity to human TSH (thyroid stimulating hormone) receptor antibody are used for detection of the antibody. (See also AAR73201-592).
                             The present sequence, a pan DR binding peptide, is capable of binding antigen binding sites on MHC molecules, which are encoded by most of the alleles of a DR locus. The peptide can be used to inhibit or induce MHC class II mediated activation of T-cells or helper T-cells, which themselves mediate a CTL response. The peptide can be used in mammals, especially humans, to inhibit T-cell-mediated events involved in allograft rejection, allergic responses and autoimmunity and as a vaccine adjurant for enhancing an immune response against an administered immunogen. The peptide can be used with other immunogens to treat, e.g. prostate cancer, hepatitis B, hepatitis C, AIDS, renal and cervical carcinoma, lymphoma, CMV and condylyloma acuminatum.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Novel polypeptide(s) having affinity for the human TSH receptor antibody - used in detection of the TSH antibody.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        thyroid stimulating hormone receptor; TSH; human; Homo sapiens; antibody; affinity; detection.
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69.4%; Score 25; DB 16; Length 8;
Best Local Similarity 100.0%; Pred. No. 7.8e+05;
Matches 4; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                             Length 4;
                                                                                                                                                                                                                                                                                                         Query Match
69.4%; Score 25; DB 19; Length 4;
Best Local Similarity 100.0%; Pred. No. 7.8e+05;
Matches 4; Conservative 0; Mismatches 0; Indels
   Disclosure; Columns 37-38; 29pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (MITP ) MITSUBISHI PETROCHEMICAL CO LTD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Human TSH receptor (residues 255-262).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Claim 1; Page 23; 54pp; Japanese.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAR73328 standard; Peptide; 8 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        93JP-0240853
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8 AA;
                                                                                                                                                                                                                                                                             4 AA;
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4 || || 4
4 WTLK 7
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                                                                                                                                                                                                                                                                                                                                                                                                           1 WTLK 4
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                                                                                                                                                                                                                                                                             Sequence
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Gaps

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Length 8; 0; Indels

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The invention relates to human leukocyte antigen (HLA) pan DR-binding comprising a fragment of a stress protein that binds to one or core more major histocompatibility complex (MHC) class II molecules. The peptides invention also relates to heat shock protein (hsp) peptides. The peptides of the invention and thr immunomodulating composition comprising these compatibility complex (MHC) treating or preventing an immune-compatibility complex that is a mammallal subject e.g. human, having or at risk of having a disease in a mammallal subject e.g. human, having or at risk of theumatoid arthritis, lups erythematosus, mysathenia gravis, type I diabetes, scleroderma, ulcerative colitis, cancer (e.g. melanoma, leukaemia, lung, liver, kidney, brain, bladder solid tumours, retinoblastoma, sarcoma and connective tissue cancers) and infectious diseases. The peptides of the invention are also useful for screening copptides are useful for treating autoimmune diseases or disorders connective tissue disease, primary bilary cirrhosis, permicious canaemia, autoimmune thyroiditis, vitiligo, idiopathic Addison's disease, condisorders anaemia, autoimmune thyroiditis, vitiligo, idiopathic Addison's disease, primary bilary cirrhosis, autoimmune hubroiditis, vitiligo, idiopathic thromobocytopeania purpura, pemphigus vulgaris, autoimmune infertiility, Goodpasture's syndrome, pemphigus vulgaris, autoimmune infertiility, Goodpasture's syndrome, pemphigus vulgaris, autoimmune infertiility, Goodpasture's syndrome, pemphigus house infertiility, Goodpasture's syndrome, ferbener ce pehtide cis PADRE, a pan-DR binder peptide used in the exemplification of the house constituent of the control of the control
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Novel human leukocyte antigen pan DR-binding peptide, useful for treating immune mediated diseases and conditions, has a fragment of stress protein that binds to major histocompatibility complex class II
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                69.4%; Score 25; DB 23; Length 11;
100.0%; Pred. No. 66;
ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                          (UYCA-) UNIV CALIFORNIA SAN DIEGO.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Example 3; Page 46; 68pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAU09839 standard; peptide; 11 AA.
  Misc-difference 2
/label= Unknown
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                                                                                                                                                                                           08-AUG-2001; 2001WO-US41656
                                                                                                                                                                                                                                               09-AUG-2000; 2000US-224104P
                                                                                                                                                                                                                                                                      06-APR-2001; 2001US-0828574
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       4; Conservative
                                                                                                                                                                                                                                                                                                                                                                              Prakken BJ;
                                                                                                                                                                                                                                                                                                                                                                                                                               WPI; 2002-227137/28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              of the invention.
                                                                                   WO200212286-A2
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                                                                                                                                          14-FEB-2002
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                                                                                                                                                                                                                                                                                                                                                                           Albani S,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence
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                                                                                                                                                                                                                                                                                                                                                       This synthetic peptide, termed PADRE 965.10, is characterised as a pan-DR binder peptide. PADREs of comparable affinity were used as model antigens to identify human antigens specific T cells in an experiment designed to demonstrate that capture of T cells by artificial antigen presenting cells (APC) is effective in identifying polychonal class II restricted human T cells. The identifying polychonal class II restricted human T cells. The invention is directed to artificial APC, and methods of making APC used to isolate and expand T cell populations and to modulate T cell responses. The invention and antigen-specific T cells. The methods provide for the construction of liposomes containing MHC:peptide complexes, accessory molecules, co-stimulatory molecules, adhesion molecules, and other molecules irrelevant to T cell binding or modulation that are used in the binding of artificial APC to solid support systems that may be used in the retrival and identification and antigen-specific T cells. Devices and methods are provided for treating conditions that would benefit from modulation of T cell response, e.g. autoimmune disorders ceptendally type I diabetes mellitus, multiple sclerosis, rheumatoid arthritis, dermatomiosytis, juvenile rheumatoid arthritis, and uveitis), allergies, cancer, viral infections, and caraft reference.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Human leukocyte antigen; HLA; DR-binding peptide; therapy; stress protein; major histocompatibility complex; MHC; antiulcer; type I diabetes; scleroderma; heat shock protein; hsp; vitiligo; rheumatoid arthritis; lugue srythematosus; myasthenia gravis; tumour; polywyositis; chronic active hepatitis; primary biliary cirrhosis; pernicious anaemia; autoimmune thyroiditis; sjogren's syndrome; cancer; oranges autoimmune disease; multiple sclerosis; hepatorropic; francer; bowel so disease; autoimmune disease; multiple sclerosis; hepatorropic; antilammatory bowel disease; Goodpasture's syndrome; neuroprotective; antimicrobial; immunosuppressive, dermatological; antiinflammatory; antiinflammatory; antiinfertility; idiopathic Addison's disease; cytostatic.
                                                                                                                                                                                                          New artificial antigen presenting cells useful for isolating and expanding T cells, and modulating T cell responses for the treatment of e.g. autoimmune diseases, allergies
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
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                                                                                                                                                                                                                                                                                                               Example 16; Page 93; 179pp; English.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAE19459 standard; peptide; 11 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PADRE, pan-DR binder peptide.
     98US-0105018
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         31-MAY-2002 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Local Similarity 100.
es 4, Conservative
                                                                                                                                                           WPI; 2000-339492/29.
                                                   (ALBA/) ALBANI S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 11 AA;
20-0CT-1998;
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                                                                                                       Albani S;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAE19459;
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Matches
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Gaps .,

AAR70249 standard; peptide; 13 AA.

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The invention relates to an artificial antigen presenting cell (I)

Comprising liposome, major histocompatibility complex (WHC), antigen an accessory molecule components. (I) is used in methods for the following: (1) identifying T cells specific for an antigen of interest; (2) isolating T cells specific for an antigen of interest; (3) modulating T cells precific for an antigen of interest; (3) modulating T cells represent the functional state of antigen specific T cells; (5) treating a condition in a subject which would be specific T cells; (5) treating a condition in a subject which would be certain antigen-specific T cells to increase Thelper (Th) 2 response and or dor decrease Thi response; (6) identifying antigen-specific T cells specific for epitopes on a graft donor's tissue likely to elicit graft versus host rejection of allografts in a transplantation therapy regime.

Method (5) is useful for treating autoimmune disease such as type I diabetes mellitus, multiple sclerosis, from therapy regime.

Method (5) is useful for treating autoimmune disease such as type I diabetes mellitus, wultiple sclerosis, from a contension or chemicals, cancer, viral infection, bacterial infection, Addition of the accessory molecules, as well as co-stimulatory molecules, and other proteins in proper orientation in the liposomes allow for substantially improved the constitution of the constantial infection of the constantial infection of the constantial infection and 
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         cell;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 response for treating allergies and cancers, comprises liposome, major histocompatibility complex, antigen and accessory molecule components
cytostatic; virucide; antibacterial; artificial antigen presenting celliposome; major histocompatibility complex; MHC; T cell; allograft; cytokine production; T-helper 2 response; transplantation therapy; autoimmune disease; type I diabetes mellitus; multiple sclerosis; rhemmatoid arthritis; dermatomyositis; juvenile rhemmatoid arthritis; uveitis; allergy; cancer; infection; Pan-DR binder peptide; PADRE.
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                                                                                                                                                                                                                                                                                                                                           /note= "Other= cyclohexylalanine"
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                                                                                                                                                                                                                                                           Location/Qualifiers
                                                                                                                                                                                                                                                                                                                     label= OTHER
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             20-APR-2000; 2000WO-IT00161.
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Best Local Similarity
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                                                                                                                                                                                                                                                                                       Misc-difference
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Peptides capable of binding MHC class II molecules via antigen binding sites (pan DR-binding peptides) were synthesised. Peptide ARAN70249 is capable of binding MHC class II molecules causing T cell activation. This is useful as a vaccine component and may be used in conjunction with CTL peptides to enhance a CTL response.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                            Inhibiting or inducing an immune response using Pan DR-binding peptide(s) - to prepare a compsn. used to treat allo-graft rejection, allergic response and auto-immunity and as a vaccine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         T cell; MHC; class II; major histocompatibility complex II;
                                                                            T cell; MHC; class II; major histocompatibility complex II; immunogen; activation.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               16; Length 13;
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                                                                                                                                                                                                                                                                                                                                                     Sidney J;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DB 79;
                                                              Pan DR-binding peptide activator of T cells.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               69.4%; Score 25; DB 100.0%; Pred. No. 79; ive 0; Mismatches
                                                                                                                                                                                              'note= "cyclohexylalanine"
                                                                                                                                                             'note= "D-form residue""
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                                                                                                                                        Location/Qualifiers
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                                                                                                                                                                                    label= OTHER
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                                          (first entry)
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les 4; Conserv
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                                          13-NOV-1995
                                                                                                                                                                                                                                          WO9507707-A
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                                                                                                                      Synthetic
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                    AAR 70249;
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caliciting an immune response to a non-protein antigenic determinant.

The composition comprises of the PARRE peptide covalently linked to the non-protein antigenic determinant. The composition is used to induce a cherapeutic or prophylactic response, particularly to selected to induce a provides antigens associated with tumours or infectious agents. It convides a high level, long-lasting IgG immune response. The composition is also used to produce monoclonal antibodies which are potentially useful as therapeutic and diagnostic agents. The composition can be used to diagnostic and intended to treatment with the non-protein can infections. PADRE peptides have broader specificity and higher chronic infections. PADRE peptides have broader specificity and higher the proliferative response of human T cells expericted by at least 6 different DR molecules, and act as helper epitopes of in vivo induction
                                                                                                                                                                            Composition for eliciting immune response to non-protein determinant - comprises the determinant and a pan-DR binding peptide, used for prevention and treatment of tumours and infections
                                                                                                                                                                                                                                                                                   (pan-DR binding) peptide is used in a composition for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 h 69.4%; Score 25; DB 18; Length 13; Similarity 100.0%; Pred. No. 79; 4; Conservative 0; Mismatches 0; Indels
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                                                                                                             Sette A;
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                                                                                                                                                                                                                                                 Claim 23; Page 74; 87pp; English
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     97WO-US01041.
                                          96US-0010510.
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                                                                                                           Alexander JL, Defrees S,
                                                                                                                                             WPI; 1997-393272/36.
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Best Local Similarity
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                                                                        (CYTE-) CYTEL
     23-JAN-1997;
                                        24-JAN-1996;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                69.4%; Score 25; DB 16; Length 13; 100.0%; Pred. No. 79; 1.1ve 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                    Sidney J;
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                                                                    /note= "D-form residue""
                                                                                                     /note= "D-form residue"
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                                  Location/Qualifiers
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Claim 3; Page 51; 59pp; English
                                                                                                                                                                                                                                             93US-0121101.
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                                                                                    Misc-difference 13
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| WTLK 10
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Synthetic
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The present sequence, a pan DR binding peptide, is capable of binding antigen binding sites on MHC molecules, which are encoded by most of the alleles of a DR locus. The peptide can be used to inhibit or induce MHC Class II mediated activation of T-cells or helper T-cells, which themselves mediate a CTL response. The peptide can be used in mammals, especially humans, to inhibit cresponses and autoimmunity and as a vaccine adjuvant for enhancing in immune response against an administered immunogen. The peptide can be used with other immunogens to treat, e g. prostate cancer, hepatitis B, hepatitis C, AlDS, renal and cervical carcinoma, clymphoma, CWV and condylyloma acuminatum.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Peptides that bind to MHC molecules of all DR alleles - inhibiting or inducing MHC Class II mediated activation of T cells
        Peptides that bind to MHC molecules of all DR alleles - inhibiting or inducing MHC Class II mediated activation of T cells
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               The present sequence, a pan DR binding peptide, is capable of binding antigen binding sites on MHC Modecules, which are encoded by most of the alleles of a DR locus. The peptide can be used to inhibit or induce MHC class II mediated activation of T-cells or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Pan DR binding peptide; antigen binding site; MHC molecule;
                                                                                                                                                                                                                                                                                                                                                                                                  DB 19; Length 13; 79;
                                                                                                                                                                                                                                                                                                                                                                                                                                         0; Indels
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                                                                                                                                                                                                                                                                                                                                                                                                  69.4%; Score 25; DB 100.0%; Pred. No. 79; ive 0; Mismatches
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                                                                      Claim 35; Columns 39-40; 29pp; English
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Best Local Similarity 1000.
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                                                                                                                                                                                                                                                                                                                                                                  13 AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAW50126;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DR locus.
                                                                                                                                                                                                                                                                                                                                                                     Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 12
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     원
                                                                                                                                                                                                                                           caliciting an immune response to a non-protein antigenic determinant.

The composition comprises of the PADRE peptide covalently linked to the composition comprises of the PADRE peptide covalently linked to the composition comprises of the PADRE peptide covalently linked to the composition is used to induce a therapeutic or prophylactic response, particularly to selected polysaccharide antigens associated with tumours or infectious agents. It provides a high lavel, long-lasting IgG immune response. The composition is also used to produce monoclonal antibodies which are potentially useful as therapeutic and disgnostic agents. The composition can be used to disgnose susceptibility of a patient to treatment with the non-protein antigenic determinant or to predict subjects at risk from developing chronic infections. PADRE peptides have broader specificity and higher the proliferative response of human T cells restricted by at least 6 different DR molecules, and act as helper epitopes of in vivo induction of cytotoxic T cells and antibody production.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                              Composition for eliciting immune response to non-protein determinant - comprises the determinant and a pan-DR binding peptide, used for prevention and treatment of tumours and infections
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                 PADRE (pan-DR binding) peptide is used in a composition for
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  69.4%; Score 25; DB 18; Length 13; 100.0%; Pred. No. 79; 0; Indels tive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sidney J;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sette A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Location/Qualifiers
                                        Sette A;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Grey HM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAW50125 standard; peptide; 13 AA.
                                                                                                                                                                                             Claim 23; Page 74; 87pp; English.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Pan DR binding peptide (22).
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93US-0121101
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                                        Defrees
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Best Local Similarity
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                                                                            WPI; 1997-393272/36.
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(CYTE-) CYTEL CORP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  13 AA;
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                                        Alexander JL,
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Gaps

AAY52558 standard; peptide; 13 AA.

RESULT 14

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Asthma; IL-5; interleukin-5; allergy; cytokine; helminthic infection; cancer; eosinophilia; vaccine; allergic rhinitis.
                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Down-regulating interleukin 5 (IL-5) activity in humans by administering IL-5 and/or an IL-5 analogue, useful in the treatment, prophlaxis or amelioration of asthma or other chronic allergic conditions -
helper T-cells, which themselves mediate a CTL response. The peptide can be used in mammals, especially humans, to inhibit T-cell-mediated events involved in allograft rejection, allergic responses and autoimmunity and as a vaccine adjuvant for enhancing an immune response against an administered immunogen. The peptide can be used with other immunogens to treat, e.g. prostate cancer, hepatitis B, hepatitis C, AlbS, renal and cervical carcinoma, lymphoma, CMV and condylyloma acuminatum.
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                                                                                                                                                                               69.4%; Score 25; DB 19; Length 13; 100.0%; Pred. No. 79;
                                                                                                                                                                                                                 0; Indels
                                                                                                                                                                                                               0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                        Promiscuous T helper epitope SEQ ID NO: 65.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Disclosure, Page 168; 172pp; English
                                                                                                                                                                                                                                                                                                                                                        AAB362B9 standard; Peptide; 13 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     99DK-0000552.
99US-0132B11.
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Query Match
Best Local Similarity 100.00
Best A; Conservative
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                                                                                                                                                                                              Local Similarity
                                                                                                                                               13 AA;
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7 WTLK 10
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06-MAY-1999;
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                                                                                                                                               Sequence
                                                                                                                                                                                                                                                                                                                                                                                          AAB36289;
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Matches
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This sequence represents a universal helper T epitope, pan DR epitope (PADRE). DNA encoding which is used to construct fusion genes used in exemplifications of the present invention. The invention relates to a movel expression vector comprising a promoter operably inked to a fusion gene encoding a major histocompatibility complex.

CC include to a fusion gene encoding a major histocompatibility complex.

CMHC) targetting sequence, and ye a class I targetting sequence, which can general mAGC class I epitope to a cytosolic pathway or to the endoplasmic reticulum, or an MHC class II targetting sequence, which can endoplasmic reticulum, or an MHC class II targetting sequence, which can endoplasmic reticulum, or an MHC class II targetting sequence, which processed into antigen poptides for presentation on MHC class II molecules. The heterologous epitopes may comprise either helper T propercyte (HTL) epitopes or a cytocoxic I lymphocyte (HTL) epitopes, or a cytocoxic I lymphocyte (HTL) epitopes, or a cytocoxic I lymphocyte (HTL) epitopes uch as a pan DR epitope (PADRE). The vectors are universal HTL epitope such as a pan DR epitope (PADRE). The vectors are useful for stimulating an immune response in vivo, as well as for use in cytor in a non-human immunogenicity of a human T cell peptide epitope in cytor in a non-human mammal. They provide a nucleic acid vaccine for cubancing immunity against infectious pathogens, such as viruses (e.g., Plasmodium falciparum, the cause of malaria) and also tumour cells and autoimmune diseases. Universal MHC class II epitopes are advantageously combined with other MHC class I and class II epitopes to increase the number of cells that are activated in response to a given antigen and provide a broader population coverage of MHC-reactive alleles.
                                                                                                                                                                          Chimeric; Ii protein; pan DR epitope; expression vector; promoter; major histocompatibility complex; MHC; targetting; peptide; epitope; antigen; presentation; class I; qytosolic pathway; endoplasmic reticulum; class II; extracellular antigen; endocytic pathway; helper T lymphocyte; HTL; universal epitope; cytocoxic T lymphocyte; CTL; immune response; immunogenicity; assay; vaccine; immunity; infection; pathogen; virus; HIV; HBV; HCV; hepatitis B; hepatitis C; bacterium; protozoan; tumour cell; autoimmune disease; activation; antiviral; antimalarial;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Expression vectors encoding major histocompatibility targeting
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Livingston B;
                                                                                                                                   Universal helper T epitope, pan DR epitope (PADRE).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sette A, Ishioka GY,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       sequence, used as, e.g. tumor vaccines
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Claim 9; Page 80; 130pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      99WO-US10646.
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                                                                                       28-FEB-2000 (first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                 immunoprotective.
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                                                                                                                                                                                                                                                                                                                                                                                                                                             Synthetic.
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Gaps

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69.4%; Score 25; DB 21; Length 13; 100.0%; Pred. No. 79; o; Indels ive 0; Mismatches 0; Indels

7 WTLK 10

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Job time : 32.0909 secs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              The invention relates to a method of determining the surface density of a cell-surface molecule on a primary or artificial antigen-presenting CC cell (APC). The method comprises determining the cell surface area of the APCs, determining the absolute amount of cell surface molecule to the APC surface area as a measure of cell surface molecule to the APC surface area as a measure of cell surface molecule to the APC surface area as a measure of cell curface molecule to the APC surface area as a measure of cell surface molecule to the APC surface area as measure of cell curface molecule to the APC surface area as measure of cell curface molecule to the APC surface area as measure of cell curface in the cell-surface density of a complex of peptide and MHC (major histocompatibility complex) protein/peptide complex on an APC; densitying an agent that increase persistence of the MHC/peptide complex on an APC surface by culturing APCs in presence of test compound and measuring the APC carries a therapeutically adequate amount of complex or and determining whether the cell-surface density of the MHC/peptide complex is 100 molecules/square micrometre or more. The method is used to determine if the amount of MHC/antigenic peptide complex present on the surface of an APC is sufficient for therapeutic cure of the cells as cellular vaccines or for ex vivo expansion of antigen-specific T cells for subsequent return to the patient, antigen-specific T cells for subsequent return to the patient, complex present on MHC/peptide complexes on cells, (which increases the therapeutity potential of the cells) by treatment before and/or during
                                                                                                  o;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Determining surface density of molecules on antigen-presenting cells, useful for quality control of cellular vaccines for treatment of tumors and infections comprises measuring density ratios -
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Cellular vaccine, antigen-presenting cell; APC; cell-variface molecule density; major histocompatibility complex; MHC; antigen-specific T-cell expansion; tumour; cancer; viral infection; paramitic infection; Pan-DR binding peptide; PADRE.
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                                                       69.4%; Score 25; DB 21;
100.0%; Pred. No. 79;
ive 0; Mismatches 0
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Disclosure; Page 21; 47pp; English.
                                                                                                                                                                                                                                                                                       AAB73644 standard; peptide; 13 AA.
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                                                                                                                                                                                                                                                                                                                                                                                                                 Pan-DR binding peptide, PADRE.
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                                                           Query Match
Best Local Similarity
                    13 AA;
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                    Sequence
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APC administration. The method allows identification of therapeutically
               useful antigen-pulsed APC optimisation of conditions for their production, and control of APC quality. Sequences AAB73643-AAB73648 represent peptides used in MHC binding studies and for the generation of peptide-specific cyctoxic T-lymphocytes.
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                                                                                                                                           69.4%; Score 25; DB 22; Length 13; 100.0%; Pred. No. 79; 0; Indels ive 0; Mismatches 0; Indels
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1: /cgn2_6/prodata/1/pubpaa/USOB_NEW_PUB.pep:*

2: /cgn2_6/prodata/1/pubpaa/USOB_NEW_PUB.pep:*

3: /cgn2_6/prodata/1/pubpaa/USO6_PUBCOMB.pep:*

4: /cgn2_6/prodata/1/pubpaa/USO6_PUBCOMB.pep:*

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6: /cgn2_6/prodata/1/pubpaa/USO7_PUBCOMB.pep:*

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Copyright (c) 1993 - 2003 Compugen Ltd.
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                                                                                                            OM protein - protein search, using sw model
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Maximum Match 100%
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Gapop 10.0 , Gapext 0.5
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	Description	Sequence 7. Appli	Sequence 12. Appl	Seguence 18. Appl	Sequence 19. Appl	Seguence 69. Appl	Seguence 47626. A	Sequence 10. Appl	Semience 40242. A	Semence 4 Appli	Seguence 7. Appli	Sequence 39731. A	Seguence 45303. A	Sequence 165. App	Seguence 12. Appl	Sequence 41804. A	Segmence 44535 A	Semience 1859. An	Sequence 822. App	Sequence 5. Appli
SUMMARIES	ID	US-09-756-983-7	US-09-828-574-12	US-09-949-375A-18	US-09-785-215-19	US-09-894-018-69	US-09-864-761-47626	US-09-983-019-10	US-09-864-761-40242	US-09-983-019-4	US-09-983-019-7	US-09-864-761-39731	US-09-864-761-45303	US-10-016-634A-165	US-09-949-375A-12	US-09-864-761-41804	US-09-864-761-44535	US-09-925-300-1859	US-09-925-299-822	US-09-896-578-5
	th DB	11 10	11 10	13 9	13 9	13 10	24 10	24 10	27 10	27 10	27 10	28 10	48 10	51 9	55 9	56 10	57 10	58 10	59 10	62 10
عن	Query Match Length DB	69.4	69.4	69.4	69.4	69.4	69.4	69.4	69.4	69.4	69.4	69.4	69.4	69.4	69.4	69.4	69.4	69.4	69.4	69.4
	Score	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
	Result No.	-	7	m	4	D.	9	7	80	6	10	11	12	13	14	15	16	17	18	19

RESULT 2 US-09-828-574-12 Sequence 12, Application US/09828574 Parent No. US20020146759A1

Sequence 47212, A Sequence 1943, App Sequence 562, App Sequence 666, App Sequence 101, App Sequence 103, Appli Sequence 95, Appli Sequence 95, Appli Sequence 103, App Sequence 103, App Sequence 109, App Sequence 119, App Sequenc	row,	icial Ohexylalanine Igth 11; Indels 0; Gaps 0;
0 US-09-664-761-47212 0 US-09-764-877-1943 0 US-09-884-0118-97 0 US-09-887-550-666 0 US-09-884-018-101 US-09-884-018-101 US-09-884-018-101 US-09-884-018-95 0 US-09-894-018-95 0 US-09-894-018-95 0 US-09-894-018-109 0 US-09-894-018-109 0 US-09-894-018-129 0 US-09-894-018-129 0 US-09-894-018-131 0 US-09-894-018-135 0 US-09-894-018-135 0 US-09-894-018-135	ALIGNMENTS ion US/09756983 2818A1 salvatore METHODS FOR ISOLATION, QUANTIFICATION CHARACTERIZATION AND MODULATION OF ANTIGEN-SPECIFIC T CELLS 7.885-CIP WUMBER: US/09/756,983 1 2001-01-09 J998-10-19 J998-10-19 J998-10-19 J998-10-19 J998-10-19 J998-10-19 J998-10-19 J998-10-19 J999-10-19 J8: 24 J8: 24 J8: 24 J8: 24 J8: Sequence	peptide totally artifican 2 stands for cyclocococc 25; DB 10; Leng Pred. No. 17; Mismatches 0; In
73 74 75 76 77 77 77 77 77 77 77 77 77	BESULT 1 Sequence 7, Application US/09756983 Sequence 7, Application US/09756983 Patent No. US200212818A1 APPLICANT: Albani, Salvatore TITLE 0F INVENTION: METHODS FOR ISOLITILE OF INVENTION: METHODS FOR ISOLITILE OF INVENTION: ANTIGEN-SPECIFIC FILE REFERENCE: 246/285-CIP CURRENT APPLICATION NUMBER: US/09/75-CURRENT FILING DATE: 1998-10-10-20 PRIOR PILING DATE: 1998-10-19 PRIOR FILING DATE: 1999-10-19 PRIOR FILING DATE: 1998-10-19	Synthesized Xaa in posit 69.4%; 100.0%; vative 0;
4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	Application ONEADOLO1281 ONEADOLO1281 ONEADOLO1281 Albani, Sal, INVENTION: ME INVENTION: ME ENCE: 246/28 ENCE: 246/28 ENCE: 1999 ICATION NUMB ING DATE: 1999	ORMATION: -7 -7 Similarity 4; Conser K 10 K 9
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	ULT 1 09-756-983-7 equence 7, Applicat equence 7, Applicat exeth No. US202012 ENERAL INFORMATION: TITLE OF INVENTION: FILE REFERENCE: 246 CURRENT APPLICATION: FILE REFERENCE: 246 CURRENT APPLICATION: PRIOR APPLICATION OF PRIOR PRIOR FILING DATE: TYPE: SECTION OF	INFORMATION INFORMATION INFORMATION INFORMATION ACCAL Similarii cal Similarii 4, Conss WTLK 10
01000000000000000000000000000000000000	RESULT 1 US-09-756-983 Sequence 7, Patent No. GENERAL INF TITLE OF ITTLE OF	CTHER INPO COTHER INPO CUS-09-756-983- QUETY MATCH Best Local S MATCHS QY 7 7 WTLK QY 7 0 7 1 Db 6 WTLK

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Sequence 476164, Application US/09864761

Batent No. US20020048763A1

GRNERAL TIPRORATION:
APPLICANT: Rank, David R.
APPLICANT: Rank, David R.
APPLICANT: Chen, Wensheng

TITLE OF INVENTION: HUMAN GENOEDERIVED SINGLE EXON NUCLEIC ACID PROBES USEFUL FOR TITLE OF INVENTION: HUMAN GENE EXPRESSION ANALYSIS BY MICROARRAY
FILE REPRENCE: Acomica-X-1
CURRENT APPLICATION NUMBER: US/09/864,761
                                                                                    FEATURE:
OTHER INFORMATION: of MHC Class II molecules in a variety of animals
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                                                                                                                                                                                                 Query Match 69.4%; Score 25; DB 9; Length 13; Best Local Similarity 100.0%; Pred. No. 20; Matches 4; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: Sette, Alessandro
APPLICANT: Sette, Alessandro
APPLICANT: Sette, Alessandro
APPLICANT: Chestnut, Robert
APPLICANT: Chingston, Brian
APPLICANT: Baker, Denisw
APPLICANT: Baker, Denisw
APPLICANT: Brown, David
APPLICANT: Brown, David
TITLE OF INVENTION: MINIGENES AND PEPTIDES THEREBY
TITLE OF INVENTION: MINIGENES AND PEPTIDES THEREBY
TITLE OF INVENTION: MINIGENES AND PEPTIDES THEREBY
TILE OF INVENTION NUMBER: US/09/894,018
CURRENT FILING DATE: 2001-06-27
PRIOR FILING DATE: 2000-12-28
PRIOR FILING DATE: 2000-12-28
PRIOR FILING DATE: 1999-12-28
PRIOR FILING DATE: 2000-04-16
NUMBER OF SEQ ID NOS: 368
SOUTHWARE: FRASESO FOR Windows Version 4.0
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; Sequence 69, Application US/09894018
; Patent No. US20020119127A1
; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ; FEATURE:
; OTHER INFORMATION: PADRE sequence
US-09-894-018-69
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Best Local Similarity 100.0%;
Matches 4; Conservative 0
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ORGANISM: Artificial Sequence
                                           TYPE: PRT
ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: EPIMMUNE, Inc.
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LENGTH: 13
SEQ ID NO 19
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                                           APPLICANT: ALBANI, Salvatore
APPLICANT: PRAKKEN, Berent J.
TITLE OF INVENTION: STRESS PROTEINS AND PEPTIDES AND METHODS OF USE THEREOF
FILE REFERENCE: UCSD1310-1
CURRENT APPLICATION NUMBER: US/09/828,574
CURRENT FILING DATE: 2001-04-06
PRIOR APPLICATION NUMBER: US 60/224,104
PRIOR FILING DATE: 2000-08-09
NUMBER OF SEQ ID NOS: 13
SOFTWARE: Patentin version 3.1
LENGTH: 11
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US-09-949-375A-18
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Sequence 19, Application US/09785215
Sequence 19, Application US/09785215
SENERAL INPORMATION:
APPLICANT: JENSEM, Martin Roland et al.
TILLE OF INVENTION: NOVEL METHOD FOR DOWN-REGULATION OF AMYLOID
FILE REFERENCE: 3631-0107P
CURRENT FILING DATE: 2001-02-20
NUMBER OR SEQ ID NOS: 19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        h Similarity 100.0%; Pred. No. 17; 4; Conservative 0; Mismatches 0; Indels
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     GENERAL INFORMATION:
APPLICANT: THE REGENTS OF THE UNIVERSITY OF CALIFORNIA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 3
US-09-949-375A-18
Sequence 18, Application US/09949375A
Sequence 18, Application US/09949375A
Sequence 18, Application US/09949375A
Sequence 18, Application US/09949375A
TITLE OF UNTENTION: Steen et al.
TITLE OF INVENTION: METHOD FOR DOWN-REGULATING IGE
FILE REPERRINCE: 3631-0111P
CURRENT APPLICATION NUMBER: US/09/949,375A
CURRENT FILING DATE: 2002-01-18
NUMBER OF SEQ ID NOS: 38
SOFTWARE: PATENTIN VERSION 3.1
SEQ ID NO 18
LENGTH: 13
                                                                                                                                                                                                                                                                                                                                                                                       OTHER INFORMATION: pan-DR binder peptide NAME/KEY: MISC_FEATURE DOCKTON: (2)..(2) OTHER INFORMATION: Xaa is any amino acid US-09-828-574-12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SOFTWARE: PatentIn version 3.1
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                                                                                                                                                                                                                                                                                                                                    TYPE: PRT ORGANISM: Artificial sequence
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Best Local Similarity 100.
Matches 4; Conservative
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Best Local Similarity
Matches 4; Conserva
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7 WTLK 10
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GREAL INCORPATION:
APPLICANT: Rear, David R.
APPLICANT: Rear, David R.
APPLICANT: Hanzel, David R.
APPLICANT: Hanzel, David R.
APPLICANT: Hanzel, David R.
APPLICANT: Hanzel, David R.
APPLICANT: Chen, Wenshe B.
TITLE OF INVENTION: HUMAN GENOME-DERIVED SINGLE EXON NUCLEIC ACID PROBES USEFUL FOR TITLE OF INVENTION: GENEER EXPESSION ANALYSIS BY MICROARRAY CURRENT APPLICATION NUMBER: US/09/864,761
CURRENT FILING DATE: 2001-05-26
PRIOR PILING DATE: 2000-05-26
PRIOR PILING DATE: 2000-05-26
PRIOR PILING DATE: 2000-06-26
PRIOR PAPLICATION NUMBER: US/0/136,359
PRIOR PILING DATE: 2001-01-30
PRIOR PILING DATE: 2001-01-30
PRIOR PAPLICATION NUMBER: PCT/USO1/0666
PRIOR PAPLICATION NUMBER: PCT/USO1/0666
PRIOR PAPLICATION NUMBER: PCT/USO1/0669
PRIOR PLING DATE: 2001-01-30
PRIOR PLING DATE: 2001-01-30
PRIOR PLICATION NUMBER: PCT/USO1/0669
PRIOR PLICATION NUMBER: USO0-09-21
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                                                                                                                                                                                                            FEATURE:
NAME/KEY: misc feature
LOCATION: (1).
COCATION: (1).
COTHER INFORMATION: Human cytomegalovirus vaccine peptice
NAME/KEY: VARIANT
LOCATION: (3)..(3)
CTHER INFORMATION: X = cyclohexylalanine or phenylalanine
US-09-983-019-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 40242, Application US/09864761
Patent No. US20020048763A1
GENERAL INFORMATION:
                            SOFTWARE: PatentIn version 3.0
SEQ ID NO 10
LENGTH: 24
                                                                                                                                  TYPE: PRT
ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity 100.0
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Fatent No. US2020146820A1
GENERAL INFORMATION:
TITLE OF INVENTION: IMMUNOREACTIVE PEPTIDE CTL EPITOPES OF HUMAN CYTOMEGALOVIRUS PP15
FILE REPERENCE: 1954-3410.
CURRENT FILING DATE: 2001-10-22
FRICH APPLICATION NUMBER: US/09/983,019
FRICH APPLICATION NUMBER: US 60/241,944
FRICH FILING DATE: 2000-10-20
FRICH FILING DATE: 2000-10-20
FRICH FILING DATE: 2000-10-20
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OTHER INFORMATION: EXPRESSED IN HELA, SIGNAL = 0.94
OTHER INFORMATION: EXPRESSED IN FETAL LIVER, SIGNAL
OTHER INFORMATION: EST HUMAN HIT: AL033706.1, EVALUE 1.00e-08
OTHER INFORMATION: SWISSPROT HIT: Q84291, EVALUE 4.90e+00
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CURRENT FILING DATE: 2001-05-23
PRIOR APPLICATION NUMBER: US 60/180, 312
PRIOR APPLICATION NUMBER: US 60/207, 456
PRIOR FILING DATE: 2000-02-04
PRIOR FILING DATE: 2000-03-03
PRIOR PLICATION NUMBER: US 60/23, 366
PRIOR PLING DATE: 2000-08-03
PRIOR PLING DATE: 2000-08-03
PRIOR PLING DATE: 2000-09-04
PRIOR PLING DATE: 2000-09-07
PRIOR PLING DATE: 2001-01-04
PRIOR PLING DATE: 2001-01-30
PRIOR APPLICATION NUMBER: PCT/US01/00661
PRIOR APPLICATION NUMBER: PCT/US01/00661
PRIOR PLING DATE: 2001-01-30
PRIOR APPLICATION NUMBER: PCT/US01/00661
PRIOR PLING DATE: 2001-01-30

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ORGANISM: Homo sapiens
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APPLICANT: Penn, Sharron G.
APPLICANT: Rank, David R.
APPLICANT: Rank, David R.
APPLICANT: Hanzel, David K.
APPLICANT: Chen, Wensheng
TITLE OF INVENTION: HUMAN GENOME-DERIVED SINGLE EXON NUCLEIC ACID PROBES USEFUL FOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ; LOCATION: (17)..(17)
; OTHER INFORMATION: X = cyclohexylalanine or phenylalanine US-09-983-019-7
                                                                                                                                                                                                                                                                                                                                                                                                                                                          NAME/KEY: misc feature
LOCATION: ()...()
OTHER INFORMATION: Human cytomegalovirus vaccine peptide
NAME/KEY: VARIANT
LOCATION: (17)...(17)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CURRENT APPLICATION NUMBER: US/9/864,761
CURRENT APPLICATION NUMBER: US/9/864,761
CURRENT PILING DATE: 2001-05-23
PRIOR APPLICATION NUMBER: US/60/180,312
PRIOR APPLICATION NUMBER: US/60/207,456
PRIOR PELING DATE: 2000-05-26
PRIOR PELING DATE: 2000-05-26
PRIOR PILING DATE: 2000-06-03
PRIOR PILING DATE: 2000-06-03
PRIOR PILING DATE: 2000-10-46
PRIOR PILING DATE: 2000-10-46
PRIOR PILING DATE: 2001-10-40
PRIOR PILING DATE: 2001-10-30
PRIOR PILING DATE: 2001-01-30
CURRENT APPLICATION NUMBER: US/09/983,019
                                     CURRENT FILING DATE: 2001-10-22
PRIOR PAPLICATION NUMBER: US 60/241,944
PRIOR FILING DATE: 2000-10-20
NUMBER OF SEQ ID NOS: 14
SOFTWARRE: Patentin version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        , Sequence 39731, Application US/09864761 ; Patent No. US20020048763A1
                                                                                                                                                                                                                                                                                                                                                                               ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GENERAL INFORMATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-09-864-761-39731
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 7 WTLK 10
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                                                                                                                                                                                                                                                                                                                                          TYPE: PRT
                                                                                                                                                                                                                                                                                                     LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     à
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TITLE OF INVENTION: IMMUNOREACTIVE PEPTIDE CTL EPITOPES OF HUMAN CYTOMEGALOVIRUS PPIS
TITLE OF INVENTION: IMMUNOREACTIVE PEPTIDE CTL EPITOPES OF HUMAN CYTOMEGALOVIRUS PPIS
TILE REPERENCE: 1954-34UN UNBER: US/09/983,019
CURRENT APPLICATION NUMBER: US 60/241,944
PRIOR APPLICATION NUMBER: US 60/241,944
PRIOR PILING DATE: 2000-10-20
NUMBER OF SEQ ID NOS: 14
SEGTWARE: PATENTING VERSION 3.0
SEQ ID NO 4
LENGTH: 27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: Diamond, Don J.
TITLE OF INVENTION: IMMUNOREACTIVE PEPTIDE CTL EPITOPES OF HUMAN CYTOMEGALOVIRUS PPISFILE REFERENCE: 1954-347US
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          69.4%; Score 25; DB 10, Length 27, 100.0%; Pred. No. 40; cive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                OTHER INPORMATION: MAP TO AC025746.2
OTHER INPORMATION: EXPRESSED IN ADULT LIVER, SIGNAL = 1.2
OTHER INPORMATION: EXPRESSED IN HEART, SIGNAL = 1.7
OTHER INPORMATION: EXPRESSED IN PLACENTA, SIGNAL = 1.6
OTHER INPORMATION: EXPRESSED IN PETAL LIVER, SIGNAL = 1.5
OTHER INPORMATION: EXPRESSED IN BRAIN, SIGNAL = 1.5
OTHER INPORMATION: EXPRESSED IN BRAIN, SIGNAL = 1.4
OTHER INPORMATION: EXPRESSED IN BONE MARROW, SIGNAL = 1.5
US-09-864-761-40242
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OTHER INFORMATION: Human cytomegalovirus vaccine peptide
OTHER INFORMATION: (6)...(6)...(6)...(6)...(6)...(6)...(7)...(7)...(7)...(7)...(7)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)...(8)
                                     SOFTWARE: Annomax Sequence Listing Engine vers. 1.1 SEQ ID NO 40242 LENGTH: 27
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LOCATION: (1)..(1)
OTHER INFORMATION: di-palmitic acid
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; Patent No. US20020146820A1
; GENERAL'INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 4, Application US/09983019 Patent No. US20020146820A1 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ORGANISM: Artificial Sequence
         NUMBER OF SEQ ID NOS: 49117
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Best Local Similarity 100.
Matches 4; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    4; Conservative
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                                                                                                                                                                                TYPE: PRT
ORGANISM: Homo sapiens
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Best Local Similarity
Matches 4; Conserva
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US-09-983-019-4
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APPLICANT: Sun, Yongming
APPLICANT: Recipon, Herve
APPLICANT: Ghosh, Malavika
APPLICANT: Ghosh, Malavika
APPLICANT: Ghosh, Malavika
APPLICANT: Liu, Chenghua
TITLE OF INVENTIVAN: Compositions and Methods Relating to Colon Specific Genes and Prot
FILE REPERBNCE: DEX-0255
CURRENT APPLICATION NUMBER: US/10/016,634A
PRIOR PILING DATE: 2000-10-31
PRIOR FILING DATE: 2000-10-31
PRIOR FILING DATE: 2000-10-31
SOFTWARE: Patentin Version 3.1
SEQ ID NO 165
LENGTH: 51
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                OTHER INFORMATION: MAP TO AC022216.3
OTHER INFORMATION: EXPRESSED IN PLACENTA, SIGNAL = 0.76
OTHER INFORMATION: EXPRESSED IN ADULT LIVER, SIGNAL = 0.65
OTHER INFORMATION: EXPRESSED IN FETAL LIVER, SIGNAL = 0.64
OTHER INFORMATION: EXPRESSED IN BRAIN, SIGNAL = 0.69
OTHER INFORMATION: EXPRESSED IN BONE MARROW, SIGNAL = 0.71
OTHER INFORMATION: SMISSPROT HIT: Q92ER9, EVALUE 1.20e+00
US-09-864-761-45303
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      PRIOR FILING DATE: 2001-01-30
PRIOR APPLICATION WUMBER: PCT/USO1/00670
PRIOR APPLICATION NUMBER: US 60/234,687
PRIOR PILING DATE: 2001-09-21
PRIOR FILING DATE: 2000-09-21
PRIOR FILING DATE: 2000-06-30
PRIOR FILING DATE: 2000-06-30
PRIOR APPLICATION NUMBER: US 99/774,203
PRIOR APPLICATION NUMBER: US 98/774,203
PRIOR APPLICATION NUMBER: 201-01-29
NUMBER OF SEQ ID NOS: 49117
SEQ ID NO 45303
LENGTH: 48
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Sequence 12, Application US/09949375A

Patent No. US20020172673A1

SENERAL INFORMATION:

APPLICANT: KIYSNER, Steen et al.

TITLE OF INVENTION: METHOD FOR DOWN-REGULATING IGE
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US-10-016-634A-165
Second 165, Application US/10016634A
Publication No. US20020192666A1
GENERAL INFORMATION:
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Best Local Similarity 100.
Matches 4; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                         TYPE: PRT
ORGANISM: Homo sapiens
FEATURE:
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ORGANISM: Homo sapiens
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Best Local Similarity
-hea 4; Conserve
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Sequence 45303, Application US/09864761

Patent No. US20020040753A1

Sequence 45303, Application US/09864761

Patent No. US2002004075A1

APPLICANT: Renn, Sharton G.

APPLICANT: Renn, Sharton G.

APPLICANT: Renn, David R.

APPLICANT: Corp. WINGERING C.

TITLE OF INVERTION: Chen, Wenshelp

TITLE OF INVERTION: Chen, Can's EXPRESSION ANALYSIS BY MICROARRAY

TITLE OF INVERTION: Chen, Corp. Co
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100.0%; Pred. No. 41;
Live 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                    OTHER INFORMATION: MAP TO ACO03681.1

OTHER INFORMATION: EXPRESSED IN LUNG, SIGNAL = 2.5

OTHER INFORMATION: EXPRESSED IN FETAL LIVER, SIGNAL = 2.6

OTHER INFORMATION: EXPRESSED IN BONE MARROW, SIGNAL = 2.6

OTHER INFORMATION: EXPRESSED IN PLACENTA, SIGNAL = 2.5

OTHER INFORMATION: EXPRESSED IN HELA, SIGNAL = 3.5

OTHER INFORMATION: EXPRESSED IN BRAIN, SIGNAL = 3.1

OTHER INFORMATION: EXPRESSED IN ADULT LIVER, SIGNAL = 3.1

OTHER INFORMATION: EXPRESSED IN HEART, SIGNAL = 3.1

US-09-864-761-39731
PRIOR FILING DATE: 2000-09-21
PRIOR APPLICATION NUMBER: US 09/608,408
PRIOR FILING DATE: 2000-06-30
PRIOR APPLICATION NUMBER: US 09/774,203
PRIOR APPLING DATE: 2001-01-29
NUMBER OF SEQ ID NOS: 49117
SOFTWARE: Annomax Sequence Listing Engine vers: 1.1
SEQ ID NO 39731
LENGTH: 28
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Best Local Similarity 100...
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CTHER INFORMATION: MAP TO ACO10582.6

CTHER INFORMATION: EXPRESSED IN BRAIN, SIGNAL = 4.9

CTHER INFORMATION: EXPRESSED IN BONE MARROW, SIGNAL = 4.7

CTHER INFORMATION: EXPRESSED IN BONE MARROW, SIGNAL = 4.7

CTHER INFORMATION: EXPRESSED IN HELA, SIGNAL = 2.4

CTHER INFORMATION: EXPRESSED IN LUNG, SIGNAL = 2.4

CTHER INFORMATION: EXPRESSED IN MADULT LIVER, SIGNAL = 6.1

CTHER INFORMATION: EXPRESSED IN FETAL LIVER, SIGNAL = 7

CTHER INFORMATION: EXPRESSED IN HEART, SIGNAL = 7

CTHER INFORMATION: EXPRESSED IN HEART, SIGNAL = 5.9

CTHER INFORMATION: STRINGAL HIT: AM873461.1, EVALUE 3.00e-18

US-09-864-761-41804
                                                                                                                                                                                                                                                                     69.4%; Score 25; DB 10; Length 56; 100.0%; Pred. No. 78; Live 0; Mismatches 0; Indels
SOFTWARE: Annomax Sequence Listing Engine vers. 1.1 SEQ ID NO 41804
LENGTH: 56
                                                                                                                                                                                                                                                                                                                                                                                                  Search completed: January 29, 2003, 10:59:00 Job time : 6.54545 secs
                                                                                                                                                                                                                                                                         Query Match 69.4
Best Local Similarity 100.
Matches 4; Conservative
                                              TYPE: PRT
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                7 WTLK 10
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US-09-949-375A-12
                                                                                                                                                                                     Query Match 69.4%; Score 25; DB 9; Length 55; Best Local Similarity 100.0%; Pred. No. 77; Matches 4; Conservative 0; Mismatches 0; Indels
   FILE REPERBUCE: 3631-0111P
CURRENT APPLICATION NUMBER: US/09/949,375A
CURRENT FILING DATE: 2002-01-18
NUMBER OF SEQ ID NOS: 38
SOFTWARE: Patentin version 3.1
SEQ ID NO 12
LENGTH: 55
                                                                                                    TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
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US-09-864-761-41804
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Gaps

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January 29, 2003, 10:29:22; Search time 29.0182 Seconds (without alignments) 64.288 Million cell updates/sec
GenCore version 5.1.3
Copyright (c) 1993 - 2003 Compugen Ltd.
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                                                                                                                                                                                                                                                                                                                                       908470 seqs, 133250620 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                             protein search, using sw model
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Gapop 10.0 , Gapext 0.5
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35
1 XXXXXWTLKXXXX 14
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Maximum DB seq length: 2000000000
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11. (\$1D82/gcgdata/geneseq/geneseqp-embl/AA1980.DAT:*

22. (\$1D82/gcgdata/geneseq/geneseqp-embl/AA1981.DAT:*

33. (\$1D82/gcgdata/geneseq/geneseqp-embl/AA1981.DAT:*

41. (\$1D82/gcgdata/geneseq/geneseqp-embl/AA1981.DAT:*

42. (\$1D82/gcgdata/geneseq/geneseqp-embl/AA1981.DAT:*

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48. (\$1D82/gcgdata/geneseq/geneseqp-embl/AA1991.DAT:*

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40. (\$1D82/gcgdata/geneseq/geneseqg-embl/AA1992.DAT:*

40. (\$1D82/gcgdata/geneseq/geneseqg-embl/AA199

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

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Result	97.00	Query	Query	ä	£	0 0 0 0 0 0
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н	25	71.4	4	19	~	Pan DR binding pep
7	25	71.4	α	16	AAR73328	Human TSH receptor
e	25	71.4	σο	16	AAR73329	Human TSH receptor
4	25	71.4	11	21	AAY79540	Pan-DR binder pept
S	25	71.4	11	23	AAE19459	PADRE, pan-DR bind
9	25	71.4	11	23	AAU09839	Pan-DR binder pept
7	25	71.4	13	16	AAR70249	Pan DR-binding pep
æ	25	71.4	13	16	AAR70250	Pan DR-binding pep
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Peptides with affinity to human TSH (thyroid stimulating hormone) receptor antibody are used for detection of the antibody. (See also AAR73201-592).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Novel polypeptide(s) having affinity for the human TSH receptor antibody - used in detection of the TSH antibody.
                                                                                                                                                                        thyroid stimulating hormone receptor; TSH; human; Homo sapiens; antibody; affinity; detection.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   71.4%; Score 25; DB 16; Length 8; 100.0%; Pred. No. 7.8e+05; ive 0; Mismatches 0; Indels
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                                                                                                                                       Human TSH receptor (residues 257-264)
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                                  AAR73329 standard; Peptide; 8 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Claim 1; Page 23; 54pp; Japanese.
                                                                                                                                                                                                                                                                                                                                                                     93JP-0240853
                                                                                                      12-DEC-1995 (first entry)
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Modified-site
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                           The present sequence, a pan DR binding peptide, is capable of binding antigen binding sites on MHC molecules, which are encoded by most of the allelss of a DR locus. The peptide can be used to inhibit or induce MHC Class II mediated activation of T-cells or helper T-cells, which themselves mediated activation of T-cells or heper T-cells mammals, especially humans, to inhibit T-cell-mediated events involved in allograft rejection, allergic response and autoimmunity and as a vaccine adjuvant for enhancing an immune response against an administered immunogen. The peptide can be used with other immunogens to treat, e.g. prostate cancer, hepatitis B, hepatitis C, AIDS, renal and cervical carcinoma, lymphoma, CMV and condylyloma acuminatum.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Novel polypeptide(s) having affinity for the human TSH receptor antibody - used in detection of the TSH antibody.
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Disclosure; Columns 37-38; 29pp; English
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Human TSH receptor (residues 255-262).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      antibody; affinity; detection.
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The invention relates to human leukocyte antigen (HLA) pan DR-binding peptide comprising a fragment of a stress protein that binds to one or more major histocompatibility complex (MFC) class II molecules. The peptides invention also relates to hat shock protein (hsp) peptides. The peptides of the invention and thr immunomodulating or preventing an immune-compatibility complex treating or preventing an immune-comparison and the mammalian subject e.g. human, having or at risk of having a disease in a mammalian subject e.g. human, having or at risk of the invention arthritis, lugs expthemacosus, mysathenia gravis, type I clabetes, scleroderma, ulcerative colitis, cancer (e.g. melanoma, luman, arcoma and connective tissue cancers) and infectious retinoplastoma, arcoma and connective tissue cancers) and infectious classases. The peptides of the invention are also useful for screening classases. The peptides of the invention are also useful for screening opptides or analogues that modulate pathogenic immune response. These peptides or analogues that modulate pathogenic immune response. These peptides or analogues that modulate pathogenic immune response. These connective tissue disease, primary biliary cirrhosis, pernicious anemia, autoimmune thyroiditis, villigo, idiopathic Addison's disease, gluten-sensitive enteropathy, Gave's disease, inflammatory bowel classase, autoimmune enteropathy also done deposit disease. The present control of the invention of the invention of the present control of the invention of the person of the invention of the person of the bility of the present control of the invention of the present of the invention of the present of the prese
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Novel human leukocyte antigen pan DR-binding peptide, useful for treating immune mediated diseases and conditions, has a fragment of stress protein that binds to major histocompatibility complex class II molecules
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                                                                                                                                                                                                           New artificial antigen presenting cells useful for isolating and expanding T cells, and modulating T cell responses for the treatment of e.g. autoimmune diseases, allergies
                                                                                                                                                                                                                                                                                                                                                                 This synthetic peptide, termed PADRE 965.10, is characterised as a pan-RX binder peptide. PADRES of comparable affinity were used model antigens to identify human antigen. Specific T cells in an experiment designed to identify human antigen. Specific T cells in an artificial antigen presenting cells (APC) is effective in artificial antigen presenting cells (APC) is effective in clambidity in polyclonal class II restricted human T cells. The invention is directed to artificial APC, and methods of making APC used to isolate and expand T cell populations and to modulate T cell responses. The invention also provides novel methods for the identification and isolation and antigen-specific T cells. The methods provide for the construction of liposomes containing MHC:Peptide complexes, accessory molecules, co-stimulatory molecules, addession molecules, and other molecules intrelevant to T cell binding or modulation that are used in the binding of artificial APC to solid support systems that may be used in the retival and identification and antigen-specific T cells. Devices and methods are provided for treating conditions that would benefit from modulation of T cell response, e.g. autoimmune disorders (rehumatoid arthritis, dermatomiosytis, juvenile rheumatoid arthritis, dermatomiosytis, juvenile rheumatoid arthritis, and vertice, viral infections, and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Human leukocyte antigen; HLA; DR-binding peptide; therapy; stress protein; major histocompatibility complex; MHC; antiulcer; type I diabetes; scleroderma, heat shock protein, hesp; utilingo; rheumatoid arthritis; lupus erythematoeus; myasthenia gravis; tumour; ulcerative colitis; infectious disease; haemostatic; nephrotropic; polymyositis; chronic active hepatitis; primary bilitary cirrhosis; pernicious anaemia; autoimmune thyroiditis; Sjogren's syndrome; cancer; Grave's disease; autoimmune disease; multiple sclerosis; hepatotropic; antimfammatory bowed disease; Goodpasture's syndrome; neuroprotective; antimfammatory bused in munosuppressive; dermatological; antiinflammatory; antiinfertility; idiopathic Addison's disease; cytostatic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        .,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match 71.4%; Score 25; DB 21; Length 11; Best Local Similarity 100.0%; Pred. No. 66; Matches 4; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                             Example 16; Page 93; 179pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAE19459 standard; peptide; 11 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PADRE, pan-DR binder peptide.
20-OCT-1998; 98US-0105018.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (first entry)
                                                                                                                                                              WPI; 2000-339492/29.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               11 AA;
                                                     (ALBA/) ALBANI S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         graft rejection.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        7 WTLK 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       31-MAY-2002
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                                                                                                     Albani S;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAE19459;
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T cell; NHC; class II; major histocompatibility complex II; immunogen; activation.

/note= "cyclohexylalanine"

/label= OTHER

/note= "D-form residue"

Misc-difference

WO9507707-A

94WO-US10368 93US-0121101

14-SEP-1994; 14-SEP-1993;

/note= "D-form residue""

Location/Qualifiers

Key Misc-difference

Synthetic

Modified-site

Pan DR-binding peptide activator of T cells.

13-NOV-1995

AAR70249 standard; peptide; 13 AA.

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The invention relates to an artificial antigen presenting cell (1) accessory wolecule components. (1) is used in methods for the accessory wolecule components. (1) is used in methods for the accessory wolecule components. (1) is used in methods for the collowing: (1) identifying T cells specific for an antigen of interest; (3) modulating T cells specific for an antigen of interest; (3) modulating T cells specific for an antigen of interest; (3) modulating T cells (4) treating a condition in a subject which would be benefited by altering the functional pattern of cytokine production by certain antigen specific T cells to increase T-helper (Th) 2 response and/or decrease Thi response; (6) identifying antigen-specific T cells to increase T-helper (Th) 2 response and/or decrease This response; (6) identifying antigen-specific T cells to certain antigen specific or epitopes on a graft donor's tissue likely to elicit graft versus host rejection response; and (7) treating a recipient mammal to reduce rejection of allografts in a transplantation therapy regime.

CC wish bypass products, juvenile rheumatoid arthritis or uveitis. Alternatively contain infection, bacterial infection. Addition of the accessory or viral infection in the liposomes allow for substantially improved in the identification and manipulation of T cells which is very important in the method of the invention.

CC the method of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ;
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  cell;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    New artificial antigen presenting cell, useful for modulating T cell response for treating allergies and cancers. comprises lipposene, major histocompatibility complex, antigen and accessory molecule components
cytostatic; virucide, antibacterial; artificial antigen presenting celliposome; major histocompatibility complex; MHC; T cell; allograft; cytokine production; T-helper 2 response; transplantation therapy; autoimmune disease; type I diabetes mellitus; multiple sclerosis; rhenmatoid arthritis; dermatomyositis; juvenile rhenmatoid arthritis; uveitis; allergy; cancer; infection; Pan-DR binder peptide; PADRE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
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                                                                                                                                                                                                                   /label= OTHER
/note= "Other= cyclohexylalanine"
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100.0%; Pred. No. 0c,
... 0; Mismatches
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                                                                                                                                                                            Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                           20-APR-2000; 2000WO-IT00161.
                                                                                                                                                                                                                                                                                                                                                                                                20-APR-2000; 2000WO-IT00161.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WPI; 2002-055316/07.
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Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                      (ALBA/) ALBANI S.
                                                                                                                                                                                                  Misc-difference
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                                                                                                                                          Synthetic
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Matches
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Inhibiting or inducing an immune response using Pan DR-binding peptide(s) - to prepare a compsn. used to treat allo:graft rejection, allergic response and auto:immunity and as a vaccine

Sidney J;

Sette A,

Grey HM,

Gaeta FCA,

Alexander JL,

CORP.

(CYTE-) CYTEL

WPI; 1995-131178/17.

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                                                                                                                                                                                                                                                                                                                                Peptides capable of binding MHC class II molecules via antigen binding sites (pan DR-binding peptides) were synthesised. Peptide ARATO249; is capable of binding MHC class II molecules causing T cell activation. This is useful as a vaccine component and may be used in conjunction with CTL peptides to enhance a CTL response.
                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            T cell; MHC; class II; major histocompatibility complex II; immunogen; activation.
                                                                                                                                                                                                                                                                                                                                                                                              DB 16; Length 13; 79;
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                                                                                                                                                                                                                                                                                                                                                                                                    100.0%; Pred. ...
                                                                                                                                                                                                                                                                                                                                                                                               71.4%; Score 25;
                                                                                                                                                                                                                                                                                                                    Claim 3; Page 51; 59pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAR70250 standard; peptide; 13
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                                                                                                                                                                                                                                                                                                                                                                                                              4; Conservative
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Best Local Similarity
Matches 4; Conserv
                                                                                                                                                                                                                                                                                                                                                                                 13 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                              7 WTLK 10
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                                                                                                                                                                                                                                                                                                                                                                                  Sequence
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9

AAR70249

us-09-707-738-24.rag

Synthetic.

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This PADRE (pan-DR binding) peptide is used in a composition for eliciting an immune response to a non-protein antigenic determinant. The composition comprises of the PADRE peptide covalently linked to the non-protein antigenic determinant. The composition is used to induce a non-protein antigenic determinant. The composition is used to induce a composition antigenic determinant. The composition is used to induce a polysaccharide antigens associated with tunours or infectious agents. It provides a high level, long-lasting IgG immune response. The composition is also used to produce monoclonal antibodies which are potentially useful as therapeutic and diagnostic agents. The composition can be used to produce monoclonal antibodies which are potentially useful as therapeutic and diagnostic subjects at risk from developing contigent of entigenic determinant or to predict subjects at risk from developing chronic infections. PADRE peptides have broader specificity and higher affinity than known DR-binding peptides. They are powerful inhibitors of the proliferative response of human T cells especial invivo induction of cytotoxic T cells and antibody production.
                                                                                                                                                                                                                                                                                        Composition for eliciting immune response to non-protein determinant - comprises the determinant and a pan-DR binding peptide, used for prevention and treatment of tumours and infections
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             71.4%; Score 25; DB 18; Length 13; 100.0%; Pred. No. 79; o; Indels ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /note= "D-form residue"
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                                                                                                                                                                              Sette A;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAW22121 standard; peptide; 13 AA
                                                                                                                                                                                                                                                                                                                                                                                                         Claim 23; Page 74; 87pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Padre (pan-DR binding) peptide 6.
97WO-US01041.
                                                          96US-0010510
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                                                                                                                                                                          Alexander JL, Defrees S,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                 WPI; 1997-393272/36.
                                                                                                                    (CYTE-) CYTEL CORP.
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es 4; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      13 AA;
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23-JAN-1997;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       13-MAR-1998
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           24-JAN-1996;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAW22121;
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Matches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Peptides capable of binding MHC class II molecules via antigen binding sites (pan DR-binding peptides) were synthesised. Peptide AAR70250 is capable of binding MHC class II molecules causing T cell activation. This can be used as a vaccine component. The peptide can also be used in combination with CTL peptides to enhance a CTL response.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Inhibiting or inducing an immune response using Pan DR-binding peptide(s) - to prepare a compsn. used to treat allo:graft rejection, allergic response and auto:immunity and as a vaccine
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             71.4%; Score 25; DB 16; Length 13; 100.0%; Pred. No. 79; cive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sidney J;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sette A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /note= "cyclohexylalanine"
                                                                                                       /note= "D-form residue""
                                                                                                                                                                 /note= "D-form residue"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Grey HM,
                                                   Location/Qualifiers
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAW22120 standard; peptide; 13 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Padre (pan-DR binding) peptide 5.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Claim 3; Page 51; 59pp; English.
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treatment; tumour; infection.
                                                                                                                                                                                                                                                                                                                                                                                                  93US-0121101.
                                                                                                                                                                                                                                                                                                                                               94WO-US10368
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaeta FCA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WPI; 1995-131178/17.
                                                                                                                                                                                                                                                                                                                                                                                                                                                            CORP.
                                                                                                                                Misc-difference 13
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                                                                             Misc-difference
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Alexander JL,
                                                                                                                                                                                                                                                                                                                                                                                                  14-SEP-1993;
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7 WTLK 10
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Sequence Query Match

Best Loca Matches

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component

Synthetic.

AAW22120

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                                                                                                The present sequence, a pan DR binding peptide, is capable of binding antigen binding sites on MHC molecules, which are encoded by most of the alleles of a DR locus. The peptide can be used to inhibit or induce MHC Class II mediated activation of T-cells or helper T-cells, which themselves mediate a CTL response. The peptide can be used in mammals, especially humans, to inhibit T-cell-mediated events involved in allograft rejection, allergic responses and autoimmunity and as a vaccine adjuvant for enhancing an immune response against an administered immunogen. The peptide can be used with other immunogens to treat, e.g. prostate cancer, hepatitis B, hepatitis C, AlDS, renal and cervical carcinoma,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Peptides that bind to MHC molecules of all DR alleles - inhibiting or inducing MHC Class II mediated activation of T cells
        Peptides that bind to MHC molecules of all DR alleles - inhibiting or inducing MHC Class II mediated activation of T cells
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  The present sequence, a pan DR binding peptide, is capable of binding antigen binding sites on MHC molecules, which are encoded by most of the allales of a DR locus. The peptide can be used to inhibit or induce MHC Class II mediated activation of T-cells or
                                                                                                                                                                                                                                                                                                                                                                                                                                                    .;
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                                                                                                                                                                                                                                                                                                                                                                                                           71.4%; Score 25; DB 19; Length 13; 100.0%; Pred. No. 79; tive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sidney J;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sette A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Claim 35; Columns 41-42; 29pp; English.
                                                                      Claim 35; Columns 39-40; 29pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Grey HM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAW50126 standard; peptide; 13 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /label= Tyr, Phe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Pan DR binding peptide (23).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        94US-0305871.
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                                                                                                                                                                                                                                                                                                                                                                                                                                   Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                          Sequence 13 AA;
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14-SEP-1993;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           This PADRE (pan-DR binding) peptide is used in a composition for eliciting an immune response to a non-protein antigenic determinant. The composition comprises of the PADRE peptide covalently linked to the composition comprises of the PADRE peptide covalently linked to the non-protein antigenic determinant. The composition is used to induce a construction and the padre polysaccharide antigens associated with tunours or infectious agents. It provides a high level, long-lasting IgG immune response. The composition is also used to produce amonoclonal antibodies which are potentially useful as therapeutic and diagnostic agents. The composition can be used to diagnose susceptibility of a patient to treatment with the non-protein chronic infections. PADRE peptides have broader specificity and higher effonts than known DR-binding peptides. They are powerful inhibitors of the proliferative response of human T cells restricted by at least 6 different DR molecules, and act as helper epitopes of in vivo induction of cytotoxic T cells and antibody production.
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                                                                                                             Composition for eliciting immune response to non-protein determinant - comprises the determinant and a pan-DR binding peptide, used for prevention and treatment of tumours and infections
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Pan DR binding peptide; antigen binding site; MHC molecule;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sidney J;
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                                         Sette A;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Grey HM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAW50125 standard; peptide; 13 AA.
                                                                                                                                                                                              Claim 23; Page 74; 87pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /label= Tyr, Phe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Pan DR binding peptide (22).
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93US-0121101
                                         Alexander JL, Defrees S,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Best Local Similarity 100.
Matches 4; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WPI; 1998-239154/21
                                                                          WPI; 1997-393272/36.
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  (CYTE-) CYTEL CORP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               13 AA;
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14-SEP-1993;
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7 WTLK 10
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Asthma; IL-5; interleukin-5; allergy; cytokine; helminthic infection; cancer; eosinophilia; vaccine; allergic rhinitis.
                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          treatment,
            peptide can be used in mammals, especially humans, to inhibit T-cell-mediated events involved in alloggraft rejection, allergic responses and autoimmunity and as a vaccine adjuvant for enhancing an immune response against an administered immunogen. The peptide can be used with other immunogens to treat, e.g. prostate cancer, hepatitis B, hepatitis C, AIDS, renal and cervical carcinoma, lymphoma, CMV and condylyloma acuminatum.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Down-regulating interleukin 5 (IL-5) activity in humans by administering IL-5 and/or an IL-5 analogue, useful in the treatm prophylaxis or amelioration of asthma or other chronic allergic
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helper T-cells, which themselves mediate a CTL response. The
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                                                                                                                                                                               71.4%; Score 25; DB 19; Length 13; 100.0%; Pred. No. 79;
                                                                                                                                                                                                                0; Indels
                                                                                                                                                                                                                0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Promiscuous T helper epitope SEQ ID NO: 65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Disclosure; Page 168; 172pp; English.
                                                                                                                                                                                                                                                                                                                                                               AAB36289 standard; Peptide; 13 AA.
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                                                                                                                                                                                                                4; Conservative
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                                                                                                                                                                                            Local Similarity
                                                                                                                                                13 AA;
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                                                                                                                                                                                                                                                                                                                                                                                                AAB36289;
                                                                                                                                                Sequence
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                                                                                                                                                                              Query Match
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universal HTL epitopes, or a cycloxic Tlymphocyte (CTL) epitope and a universal HTL epitopes uch as a pan DR epitope (PADRE). The vectors are useful for stimulating an immune response in vivo, as well as for use in assaying the human immunogenicity of a human T cell peptide epitope in vivo in a non-human mammal. They provide a nucleic acid vaccine for enhancing immunity against infectious pathogens, such as viruses (e.g., HIV, hepatitis B (HBV and hepatitis C (HVV)) bacteria, protozoa (e.g., Plasmodium falciparum, the cause of malaria) and also tumour cells and autoimmune diseases. Universal MHC class II epitopes are advantageously combined with other MHC class I and class II epitopes to increase the number of cells that are acctivated in response to a given antigen and provide a broader population coverage of MHC-reactive alleles.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       This sequence represents a universal helper T epitope, pan DR epitope (PADRE), DNA encoding which is used to construct fusion genes used in exemplifications of the present invention. The invention relates to a novel expression vector comprising a promoter operably linked to a fusion gene encoding a major histocompatibility complex (MHC) targetting sequence, and two or more hererologous peptide epitopes. The MHC targetting sequence may be a class I targetting sequence, which directs an MHC class I epitope to a cytosolic pathway or to the endoplasmic reticulum, or an MHC class II targetting sequence, which directs extracellular antigens to enter the endocytic pathway to be processed into antigen peptides for presentation on MHC class II molecules. The heterologous epitopes may comprise either helper I
                                                                                                                                                                 Chimeric; Ii protein, pan DR epitope; expression vector; promoter; major histocompactibility complex; MHC; targetting; peptide; epitope; antigen; presentation; class I: cytosolic pathway; endoplasmic reticulum; class II: extracellular antigen; endopplasmic reticulum; class II: extracellular antigen; cytocoxic pathway; helper T lymphocyte; HTL; universal epitope; cytocoxic T lymphocyte; CTL; immune response; immunoganicity; assay; vaccine; immunity; infection; pathogen; virus; HTV; HBV; HCV; hepatitis C; bacterium; protozoan; tumour cell; autoimmune disease; activation; antiviral; antimalarial;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Expression vectors encoding major histocompatibility targeting
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Livingston
                                                                                                                             Universal helper T epitope, pan DR epitope (PADRE).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          sequence, used as, e.g. tumor vaccines
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                99WO-US10646.
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                                                                                 (first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (EPIM-) EPIMMUNE INC
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                                                                                                                                                                                                                                                                                                                                                                        immunoprotective
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                                                                                    28-FEB-2000
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                                                                                                                                                                                                                                                                                                                                                                                                                 Synthetic.
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Local Similarity

Best Loca Matches

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The invention relates to a method of determining the surface density of a cell-surface molecule on a primary or artificial antigen-presenting cell capto. The method comprises determining the cell surface area as cell capto. The method comprises determining the cell surface molecule to the APCs, determining the absolute amount of cell surface molecule to the APCs surface area as a measure of cell surface molecule to the APC surface area as a measure of cell surface molecule to the APC surface area as measure of cell surface molecule to the APC surface area as measure of cell surface molecule to the APC surface density of a complex of peptide and MHC (major histocompatibility complex) protein/peptide complex on an APC; dentifying an agent that increases persistence of the MHC/peptide complex on an APC surface by culturing APCs in presence of test compound and measuring the time of persistence relative to an untreated control; and determining if the APC carries a therapeutically adequate amount of peptide by determining whether the cell-surface density of the MHC/peptide complex is 100 molecules/square micrometre or more. The method is used to determine if the amount of MHC/antigenic peptide complex present on the surface of an APC is sufficient for therapeutic antigen-specific T cells for subsequent return to the patient, can pertiant also be used to identify agents that increase the production of MHC/peptide complexes on cells, (which increases the therapeutic potential of the cells) by treatment before and/or during
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Determining surface density of molecules on antigen-presenting cells, useful for quality control of cellular vaccines for treatment of tumors and infections comprises measuring density ratios -
                                                                                                                                                                                                                                                                                                                                                                                                                                             Cellular vaccine; antigen-presenting cell; APC; cell-swrface molecule density; major histocompatibility complex; MHC; attigen-specific T-cell expansion; tumour; cancer; viral infection; parasitic infection; Pan-DR binding peptide; PADRE.
                                                                                                Gaps
                                                                                                0;
                                                     71.4%; Score 25; DB 21; Length 13; 100.0%; Pred. No. 79; 0; Indels ive 0; Mismatches 0; Indels
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Von Bergwelt-Baildon M;
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                                                                                                                                                                                                                                                                                AAB73644 standard; peptide; 13 AA.
                                                                                                                                                                                                                                                                                                                                                                                                       Pan-DR binding peptide, PADRE.
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                                                                       Local Similarity 100.
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                    13 AA;
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                    Sequence
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Matches
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CC aptC administration. The method allows identification of therapeutically CC useful artigan-pulsed APC optimisation of conditions for their creptacion, and control of APC quality. Sequences AAB9364-AAB93646 CC represent peptides used in MHC binding studies and for the generation CC of peptide-specific cytotoxic T-lymphocytes.

XX SQ Sequence 13 AA;

Query Match

Query Match

At Conservative 0, Mismatches 0, Indels 0; Gaps 0;

Matches 4; Conservative 0, Mismatches 0, Indels 0; Gaps 0;

Qy 7 WTLK 10

Db 7 WTLK 10

Search completed: January 29, 2003, 10:44:34
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January 29, 2003, 10:46:52; search time 6.10909 Seconds (without alignments) 46.243 Million cell updates/sec
GenCore version 5.1.3
Copyright (c) 1993 - 2003 Compugen Ltd.
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                                                                  OM protein - protein search, using sw model
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Gapop 10.0 , Gapext 0.5
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1 XXXXXXWTLKXXXXX 14
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                                                                                                                                                                       Title:
Perfect score:
Sequence:
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Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries Database :

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Published Applications AA:*

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2: /cgn2_6/ptodata/1/pubpaa/PCT_NEW_PUB.pep:*
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13: /cgn2_6/ptodata/1/pubpaa/USO0_PUBCOMB.pep:*
14: /cgn2_6/ptodata/1/pubpaa/USO0_PUBCOMB.pep:*
14: /cgn2_6/ptodata/1/pubpaa/USO0_PUBCOMB.pep:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

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Result		Query				
No.	Score	Match	Match Length DB ID	DB	<u>ត</u>	Description
н	25	71.4	11	10	US-09-756-983-7	Seguence 7 Appli
7	25	71.4	11	10	US-09-828-574-12	Sequence 12. Appl
m	25	71.4	13	σ	US-09-949-375A-18	Semenary and Semenary
4	25	71.4	13	6	US-09-785-215-19	Semience 19. April
S	25	71.4	13	10	US-09-894-018-69	Semience 69 enemes
9	25	71.4	24	10	US-09-864-761-47626	Semience 47626 A
7	25	71.4	24	10	US-09-983-019-10	Sequence 10. Appl
œ	25	71.4	27	10	US-09-864-761-40242	Segmence 40242. A
σ	25	71.4	27	10	US-09-983-019-4	Semience 4 Appli
10	25	71.4	27	10	US-09-983-019-7	Sequence 7 Appli
11	25	71.4	28	10	US-09-864-761-39731	Semience 39731
12	25	71.4	48	10	US-09-864-761-45303	Semience 45303 h
13	25	71.4	51	6	US-10-016-634A-165	Semience 165 Ann
14	25	71.4	55	σ	US-09-949-375A-12	Semience 12 Appl
15	25	71.4	26	10	US-09-864-761-41804	Section Albert
16	25	71.4	57	10	US-09-864-761-44535	Sectionce 41004, A
17	25	71.4	58	10	IIS-09-925-300-1859	Semience 11050
18	25	71 4	ď	-	116-00-005-000-000	deductive 1939, Ap
			3 :	1	778-667-676-60-00	sednence 877, App
1	52	71.4	62	10	US-09-896-578-5	Sequence 5, Appli

RESULT 2 US-09-828-574-12 ; Sequence 12, Application US/09828574 ; Patent No. US20020146759A1

Sequence 47212, A Sequence 1943, Ap Sequence 562, Appl Sequence 666, App Sequence 61929, A Sequence 101, Appl Sequence 103, Appl Sequence 103, Appl Sequence 103, Appl Sequence 109, Appl Sequence 129, Appl Sequence 129, Appl Sequence 129, Appl Sequence 119, Appl	FICATION, TON OF Trificial	h 11; els 0; Gaps 0;
73 10 US-09-8644-761-47212 74 10 US-09-764-877-1943 80 10 US-09-984-0118-97 87 10 US-09-984-0118-97 89 10 US-09-9864-751-43929 98 10 US-09-9864-751-43929 98 10 US-09-864-018-101 106 9 US-10-138-516-3 106 10 US-09-894-018-95 107 10 US-09-894-018-95 107 10 US-09-894-018-103 109 10 US-09-894-018-103 109 10 US-09-894-018-103 130 10 US-09-894-018-109 130 10 US-09-894-018-129 144 10 US-09-894-018-129 148 10 US-09-894-018-127 152 10 US-09-894-018-127 168 10 US-09-894-018-127 169 10 US-09-894-018-127 169 10 US-09-894-018-117 169 10 US-09-894-018-117 169 10 US-09-894-018-117 169 10 US-09-894-018-117 169 10 US-09-894-018-117 169 10 US-09-894-018-117 169 10 US-09-894-018-115 180 10 US-09-894-018-118	ALIGNMENTS S/09756983 LOZE DDS FOR ISOLATION, QUANTI RACTERIZATION AND MODULAI IGEN-SPECIFIC T CELLS CIP RE: US/09/756,983 10-10-10-10-10-10-10-10-10-10-10-10-10-1	71.4%; Score 25; DB 10; Length 100.0%; Pred. No. 17; Ative 0; Mismatches 0; Indel
255	SULT 1 -09-756-983-7 Sequence 7, Application U Barent No. US20020122818A APPLICATION: Aslva TITLE OF INVENTION: METH- TITLE OF INVENTION: METH- TITLE OF INVENTION: MATH- TITLE OF INVENTION: MATH- TITLE OF INVENTION: ANT- TITLE OF INVENTION ON THE INFORMATION: ANT- LENGTH: 11 REAUTHS: 1 REAUTHS: THE OF SEC ID NOS: 24 SOOFWARE: PSECSEO fOR WINGERS TYPE: PRINT NOS: 24 SOOFWARE: TERMORMATION: Synch OTHER INFORMATION: Xan: OTHER INFORMATION: Xan:	tch al Similarity 4; Conservat WTLK 10 WTLK 9
0 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	RESULT 1 US-09-756-983- Sequence 7, Sequence 7, Sequence 7, Sequence 7, Sequence 7, TITLE OF INF SEQUENCE SECUENCE SEQUENCE TO SECUENCE SEQUENCE TO SECUENCE SEQUENCE TO SECUENCE SEQUENCE SECUENCE SEQUENCE SECUENCE SEQUENCE SECUENCE SEQUENCE SECUENCE SEQUENCE SECUENCE S	Query Matc Best Local Matches Qy 7 WT Db 6 WT

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Sequence 47626, Application US/09864761

Batent No. US20020048763A1

GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: Rank, David R.
APPLICANT: Rank, David R.
APPLICANT: Chen, Wensheng
IITLE OF INVENTION: HUMAN GENORE-DERIVED SINGLE EXON NUCLEIC ACID PROBES USEFUL FOR TITLE OF INVENTION: GENE EXPRESSION ANALYSIS BY MICROARRAY
FILE REPERENCE: Acomica-X-1
CURRENT APPLICATION NUMBER: US/09/864,761
                                                                                                   FEATURE: OTHER INFORMATION: artificial T-cell epitope capable of binding to a large portion CHER INFORMATION: of WHC Class II molecules in a variety of animals US-09-785-215-19
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71.4%; Score 25; DB 10; Length 13;
Best Local Similarity 100.0%; Pred. No. 20;
Matches 4; Conservative 0; Mismatches 0; Indels
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APPLICANT: Sette, Alessandro
APPLICANT: Sette, Alessandro
APPLICANT: Chestnut, Robert
APPLICANT: Livingston, Brian
APPLICANT: Baker, Denisw
APPLICANT: Baker, Denisw
APPLICANT: Brown, David
TILE OF INVENTION: MINICENES AND PEPTIDES THEREBY
TILE OF INVENTION: WINGER: ASOURCES
TILE REFERENCE: 39643-2003:00
CURRENT APPLICATION NUMBER: DC00-16-29
PRIOR FILING DATE: 2000-12-28
PRIOR FILING DATE: 1999-12-28
PRIOR FILING DATE: 2001-44-16
NUMBER OF SEQ ID NOS: 368
SEQ ID NO SEQ ID NOS: 368
SEQ ID NO SEQ ID NOS: 368
LENGTH: 13
                                                                                                                                                                                                                        Query Match 71.4%; Score 25; DB 9; Best Local Similarity 100.0%; Pred. No. 20; Matches 4; Conservative 0; Mismatches
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SEQ ID NO 19
LEWOTH: 13
TYPE: RRT
ORGANISM: Artificial Sequence
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US-09-864-761-47626
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           APPLICANT: THE REGENTS OF THE UNIVERSITY OF CALIFORNIA
APPLICANT: THE REGENTS OF THE UNIVERSITY OF CALIFORNIA
APPLICANT: TERRORY
APPLICANT: PRAKKEN, Berent J.
TITLE OF INVENTION: STRESS PROFFEINS AND PEPTIDES AND METHODS OF USE THEREOF
FILE REFERENCE: USSD1310-1
CURRENT FILING DATE: 2001-04-06
PRIOR APPLICATION NUMBER: US 60/224,104
PRIOR APPLICATION NUMBER: US 60/224,104
PRIOR PAPLICATION NUMBER: US 60/224,104
PRIOR FILING DATE: 2000-08-09
NUMBER OF SEQ ID NOS: 13
SOFTWARE: Patentin version 3.1
SEQ ID NO 12
LENGTH: 11
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US-09-949-375A-18
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US-09-785-215-19
US-09-785-215-19
Sequence 19, Application US/09785215
Sequence 19, Application US/09785215
Sequence 19, Application US/09785215
GENERAL INFORMATION:
TITLE OF INVENTION:
TITLE OF INVENTION: NOVEL METHOD FOR DOWN-REGULATION OF AMYLOID FILE REFRENCE: 3631-0107P
CURRENT APPLICATION UNDERS: US/09/785,215
CURRENT FILING DATE: 2001-02-20
NUMBER OF SEQ ID NOS: 19
SOFTWARE: Patentin version 3.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match 71.4%; Score 25; DB 10; Length 11; Best Local Similarity 100.0%; Pred. No. 17; Matches 4; Conservative 0; Mismatches 0; Indels
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TITLE OF INVENTION: METHOD FOR DOWN-REGULATING IGE
FILE REFERENCE: 3631-0111P
CURRENT FILMS OBJER: 2002-01-18
CURRENT FILMS OBJER: 2002-01-18
NUMBER OF SEQ ID NOS: 38
SOFTWARE: Patentin version 3.1
LENGETH: 13
LENGETH: 13
                                                                                                                                                                                                                                                                                                                                                                                                               FEATURE:
OTHER INFORMATION: pan-DR binder peptide
NAME/KEY: MISC FEATURE
LOCATION: (2).-(2)
OTHER INFORMATION: Xaa is any amino acid
US-09-828-574-12
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ORGANISM: Artificial sequence
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Best Local Similarity 100.
Matches 4; Conservative
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US-09-949-375A-18
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APPLICANT: PROMACHINE:
APPLICANT: PROD. SHALTON:
APPLICANT: PROD. SHALTON:
APPLICANT: PROD. SHALTON:
APPLICANT: PROD. SHALTON:
APPLICANT: CALL WENDARD:
TITLE OF INVENTION: CHEMBERSION ANALYSIS BY MICROARRAY
TITLE OF INVENTION: CHEMBERSION ANALYSIS BY MICROARRAY
TITLE OF INVENTION: CHEMBERSION ANALYSIS BY MICROARRAY
FILE REFERENCE: Accounted X-1
CURRENT FILING DATE: 2001-05-20
PRIOR PAPLICATION NUMBER: 185 60/207, 456
PRIOR PAPLICATION NUMBER: 180 60/207, 506
PRIOR PAPLICATION NUMBER: PCT/USO1/00666
PRIOR APPLICATION NUMBER: PCT/USO1/00666
PRIOR APPLICATION NUMBER: PCT/USO1/00667
PRIOR PAPLICATION NUMBER: PCT/USO1/00669
PRIOR APPLICATION NUMBER: PCT/USO1/00669
PRIOR PLINS DATE: 2001-01-30
PRIOR PL
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                                                                                                                                    TYPE: PRT
ORGANISM: Artificial Sequence
PEATURE:
NAME/KEY: misc_feature
LOCATION: ()...()
OTHER INVERMINON: Human cytomegalovirus vaccine peptice
NAME/KEY: VARIANT
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OR APPLICATION NUMBER: PCT/USO1/00669

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OR APPLICATION NUMBER: PCT/USO1/00669

OR APPLICATION NUMBER: PCT/USO1/00665

OR FILING DATE: 2001-01-30

OR APPLICATION NUMBER: PCT/USO1/00663

OR FILING DATE: 2001-01-30

OR APPLICATION NUMBER: PCT/USO1/00663

OR FILING DATE: 2001-01-30

OR APPLICATION NUMBER: PCT/USO1/00662

OR FILING DATE: 2001-01-30

OR APPLICATION NUMBER: PCT/USO1/00667

OR APPLICATION NUMBER: PCT/USO1/00670

OR APPLICATION NUMBER: PCT/USO1/00670

OR APPLICATION NUMBER: US 60/234,687

OR FILING DATE: 2001-01-30

OR APPLICATION NUMBER: US 60/234,687

OR RILING DATE: 2000-09-21

OR APPLICATION NUMBER: US 09/608,408

OR FILING DATE: 2000-06-30

OR APPLICATION NUMBER: US 09/774,203
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Patent No. US20020048763A1
                        SOFTWARE: Patentin version 3.0 SEQ ID NO 10 LENGTH: 24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GENERAL INFORMATION:
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Fatent No. US20020146820A1
GENERAL INFORMATION:
TITLE OF INVENTION: IMMUNOREACTIVE PEPTIDE CTL EPITOPES OF HUMAN CYTOMEGALOVIRUS PP15
FILE REFERENCE: 1994-3410.
CURRENT FILING DATE: 2001-10-22
FRICH REPLICATION NUMBER: US 60/241,944
FRICH FILING DATE: 2000-10-20
FRIOR PEPTICATION NUMBER: US 60/241,944
FRICH FILING DATE: 2000-10-20
NUMBER OF SEQ ID NOS: 14
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OTHER INFORMATION: EXPRESSED IN HELA, SIGNAL = 0.94
OTHER INFORMATION: EXPRESSED IN FETAL LIVER, SIGNAL = 0.96
OTHER INFORMATION: EST HUMAN HIT: AI033706.1, EVALUE 1.00e-08
OTHER INFORMATION: SWISSPROT HIT: Q84291, EVALUE 4.90e+00
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Pred. No. 36;
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CURRENT FILING DATE: 2001-05-23
PRIOR APPLICATION NUMBER: US 60/180,312
PRIOR PILING DATE: 2000-02-05
PRIOR FILING DATE: 2000-02-05
PRIOR PILING DATE: 2000-05-05
PRIOR PILING DATE: 2000-05-03
PRIOR PILING DATE: 2000-06-03
PRIOR PILING DATE: 2000-09-03
PRIOR PILING DATE: 2000-09-07
PRIOR PILING DATE: 2000-09-07
PRIOR PILING DATE: 2001-01-04
PRIOR PILING DATE: 2001-01-04
PRIOR PILING DATE: 2001-01-30
PRIOR PPLICATION NUMBER: PCT/US01/00669
PRIOR PPLICATION NUMBER: PCT/US01/00669
PRIOR PPLICATION NUMBER: PCT/US01/00669
PRIOR PPLICATION NUMBER: PCT/US01/00669
PRIOR PLING DATE: 2001-01-30
PRIOR PLING DATE: 2000-09-21
PRIOR PLING DATE: 2001-01-30
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71.4%; Score 25; DB
Best Local Similarity 100.0%; Pred. No. 36;
Matches 4; Conservative 0; Mismatches
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ORGANISM: Homo sapiens
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US-09-9B3-019-10
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APPLICANT: Penn, Sharron G.
APPLICANT: Rank, David K.
APPLICANT: RAnk, David K.
APPLICANT: RAnk, David K.
APPLICANT: Harcel, David K.
APPLICANT: Harcel, David K.
APPLICANT: Harcel, David K.
APPLICANT: Harcel, David K.
TITLE OF INVENTION: HUMAN GENOME-DERIVED SINGLE EXON NUCLEIC ACID PROBES USEFUL FOR TITLE OF INVENTION: GENE EXPRESSION ANALYSIS BY MICROARRAY
TITLE OF INVENTION: GENE EXPRESSION ANALYSIS BY MICROARRAY
TITLE OF INVENTION: GENE EXPLOSE-23
FRICK APPLICATION NUMBER: US 60/180,312
PRIOR FILING DATE: 2000-05-23
PRIOR FILING DATE: 2000-06-03
PRIOR FILING DATE: 2001-01-30
PRIOR FILING DATE: 2001-01-30
PRIOR PAPLICATION NUMBER: PCT/USO1/00666
PRIOR FILING DATE: 2001-01-30
PRIOR APPLICATION NUMBER: PCT/USO1/00666
PRIOR FILING DATE: 2001-01-30
PRIOR PRIOR FILING DATE: 2001-01-30
PRIOR PRIOR FILING DATE: 2001-01-30
PRIOR PRIOR FILING DATE: 2001-01-30
PRIOR PRIOR FILING DATE: 2001-01-30
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71.4%; Score 25; DB 10; Length 27;
Best Local Similarity 100.0%; Pred. No. 40;
Matches 4; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                        NAME/KEY: misc_feature
: LOCATION: ()...()
: COCATION: ()...()
: OTHER INFORMATION: Human cytomegalovirus vaccine peptide
: NAME/KEY: VARIANI
: LOCATION: (17)...(17)
: COCATION: (17)...(17)
: OTHER INFORMATION: X = cyclohexylalanine or phenylalanine
US-09-983-019-7
      CURRENT APPLICATION NUMBER: US/09/983,019
                                 CURRENT FILING DATE: 2001-10-22
PRIOR APPLICATION NUMBER: US 60/241,944
PRIOR FILING DATE: 2000-10-20
NUMBER OF SEQ ID NOS: 14
SOFTWARE: Patentin version 3.0
SEQ ID NO 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 39731, Application US/09864761
Patent No. US20020048763A1
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                   ORGANISM: Artificial Sequence
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US-09-864-761-39731
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Patent No. US20020146820A1
GRNERAL INFORMATION:
GRNERAL INFORMATION:
GRNERAL INFORMATION:
TITLE OF INVENTOR: 1954-3470S
CURRENT APPLICATION NUMBER: US/09/983,019
CURRENT FILING DATE: 2001-10-22
PRIOR FILING DATE: 2000-10-20
NUMBER OF SEQ ID NOS: 14
SEQ ID NO 4
SEQ ID NO 4
SEQ ID NO 4
SEQ ID NO 4
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; Patent No. US20020146820A1
; GENERAL INFORMATION:
; APPLICANT: Diamond, Don J.
; TITLE OF INVENTION: IMMUNOREACTIVE PEPTIDE CTL EPITOPES OF HUMAN CYTOMEGALOVIRUS PP15
; FILE REFERENCE: 1954-347US
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        71.4%; Score 25; DB 10; Length 27, 100.0%; Pred. No. 40; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                    OTHER INFORMATION: MAP TO AC025746.2

OTHER INFORMATION: EXPRESSED IN ADULT LIVER, SIGNAL = 1.2

OTHER INFORMATION: EXPRESSED IN HEART, SIGNAL = 1.7

OTHER INFORMATION: EXPRESSED IN PLACENTA, SIGNAL = 1.6

OTHER INFORMATION: EXPRESSED IN FETAL LIVER, SIGNAL = 1.5

OTHER INFORMATION: EXPRESSED IN BOALD MARROW, SIGNAL = 1.5

OTHER INFORMATION: EXPRESSED IN BOALD MARROW, SIGNAL = 1.5

US-09-864-761-40242
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NUMBER OF SEQ ID NOS: 49117
SOFTWARE: Annomax Sequence Listing Engine vers. 1.1
SEQ ID NO 40242
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OTHER INFORMATION: di-palmitic acid
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ORGANISM: Artificial Sequence
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Best Local Similarity 100.
Matches 4; Conservative
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                                                                                                                                    TYPE: PRT
ORGANISM: Homo sapiens
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US-09-983-019-7
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                                                                                                                                                                                                   FEATURE:
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                                                                                                             LENGTH:
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Sequence 165, Application US/10016634A
Publication No US2020192666A1
GENERAL INFORMATION
GENERAL INFORMATION
APPLICANT: Sun, Yongming
APPLICANT: Recipon, Herve
APPLICANT: Chosh, Malavika
APPLICANT: Liu, Chenghua
TITLE OF INVENTION: Compositions and Methods Relating to Colon Specific Genes and Prot
TITLE OF INTENTION COMPOSITIONS OF THE REPRENCE: DEX-0255
CURRENT FILING DATE: 2001-10-31
PRIOR APPLICATION NUMBER: US 60/244,258
PRIOR APPLICATION NUMBER: US 60/244,258
RPHOR PLING DATE: 2000-10-31
NUMBER OF SEQ ID NOS: 176
SOFTWARE: Patentin version 3.1
SEQ ID NO 165
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ORGANISM: Homo sapiens
FEATURE:
OTHER INPORMATION: MAP TO AC022216.3
OTHER INPORMATION: EXPRESSED IN PLACENTA, SIGNAL = 0.76
OTHER INPORMATION: EXPRESSED IN PETAL LIVER, SIGNAL = 0.65
OTHER INPORMATION: EXPRESSED IN PETAL LIVER, SIGNAL = 0.69
OTHER INPORMATION: EXPRESSED IN BRAIN, SIGNAL = 0.69
OTHER INPORMATION: EXPRESSED IN BONE MARROW, SIGNAL = 0.71
OTHER INPORMATION: SWISSPROT HIT: Q9ZER9, EVALUE 1.20e+00
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72;
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PRIOR FILING DATE: 2001-01-30
PRIOR APPLICATION VUMBER: PCT/USO1/00670
PRIOR PLING DATE: 2001-01-30
PRIOR APPLICATION NUMBER: US 60/234,687
PRIOR FILING DATE: 2000-09-21
PRIOR PLING DATE: 2000-06-30
PRIOR PLING DATE: 2000-06-30
PRIOR PLING DATE: 2000-06-30
PRIOR PLING DATE: 2001-01-29
NUMBER OF SEQ ID NOS: 49117
SOFTWARE: Annomax Sequence Listing Engine vers. 1.1
SEQ ID NO 45303
LENGTH: 48
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; CENERAL INFORMATION:
; APPLICANT: KLYSNER, Steen et al.
; ITILE OF INVENTION: METHOD FOR DOWN-REGULATING IGE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                71.4%; Score 25; DB 100.0%; Pred. No. 72; ive 0; Mismatches
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CRGANISM: Homo sapiens
US-10-016-634A-165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local Similarity
Matches 4; Conserv
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US-09-949-375A-12
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APPLICANT: Penn, Sharron G.
APPLICANT: Penn, Sharron G.
APPLICANT: Penn, Sharron G.
APPLICANT: Penn, Wensheng
APPLICANT: Chon, Wensheng
TITLE OF INNEWITON: UNMAN GENE EXPRESSION NALLYSIS BY MICROARRAY
TITLE OF INNEWITON: GENE EXPLOSION NALLYSIS BY MICROARRAY
TITLE OF INNEWITON WENER: US 60/180,312
PRIOR PILING DATE: 2000-06-30
PRIOR PILING DATE: 2000-06-30
PRIOR PILING DATE: 2000-09-37
PRIOR PILING DATE: 2000-09-27
PRIOR PILING DATE: 2000-09-27
PRIOR PILING DATE: 2000-09-27
PRIOR PILING DATE: 2000-09-27
PRIOR PILING DATE: 2001-01-30
PRIOR PILING DATE: 2001-01-30
PRIOR PILING DATE: 2001-01-30
PRIOR APPLICATION NUMBER: PCT/US01/0066
PRIOR PILING DATE: 2001-01-30
PRIOR PARTING DATE: 2001-01-30
PRIOR PILING DATE: 2001-01-30
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                                                                                                                                                                                                                                                                                                                                                                                                OTHER INFORMATION: MAP TO ACO03681.1
OTHER INFORMATION: EXPRESSED IN LUNG, SIGNAL = 2.5
OTHER INFORMATION: EXPRESSED IN PETAL LIVER, SIGNAL = 2.6
OTHER INFORMATION: EXPRESSED IN BONE MARROW, SIGNAL = 2.6
OTHER INFORMATION: EXPRESSED IN PLACENTA, SIGNAL = 2.6
OTHER INFORMATION: EXPRESSED IN HELA, SIGNAL = 2.5
OTHER INFORMATION: EXPRESSED IN BRAIN, SIGNAL = 3.1
OTHER INFORMATION: EXPRESSED IN ADULT LIVER, SIGNAL = 3.1
OTHER INFORMATION: EXPRESSED IN HEART, SIGNAL = 3.1
US-09-864-761-39731
PRIOR FILING DATE: 2000-09-21
PRIOR APPLICATION NUMBER: US 09/608,408
PRIOR PLILING DATE: 2000-06-30
PRIOR PLILING DATE: 2001-01-29
NUMBER OF SEQ ID NOS: 49117
SEQ ID NO 39731
LENGTH: 28
LENGTH: 28
LENGTH: 28
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; Sequence 45303, Application US/09864761
; Patent No. US20020048763A1
; GENERAL INPORMATION:
                                                                                                                                                                                                                                                                                                        TYPE: PRT
ORGANISM: Homo sapiens
FEATURE:
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CTHER INFORMATION: MAP TO ACO10582.6

OTHER INFORMATION: EXPRESSED IN BRAIN, SIGNAL = 4.9

OTHER INFORMATION: EXPRESSED IN PLAGENIA, SIGNAL = 4.7

OTHER INFORMATION: EXPRESSED IN HELA, SIGNAL = 4.7

OTHER INFORMATION: EXPRESSED IN HELA, SIGNAL = 7

OTHER INFORMATION: EXPRESSED IN LUNG, SIGNAL = 7

OTHER INFORMATION: EXPRESSED IN ADULT LIVER, SIGNAL = 7

OTHER INFORMATION: EXPRESSED IN FETAL LIVER, SIGNAL = 7

OTHER INFORMATION: EXPRESSED IN HEART, SIGNAL = 5.9

OTHER INFORMATION: SWISSPROT HIT: PL6473, EVALUE 1.00e-27

US-09-864-761-41804
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   SOFTWARE: Annomax Sequence Listing Engine vers. 1.1 SEQ ID NO 41804 LENGTH: 56
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Search completed: January 29, 2003, 10:59:00 Job time : 6.10909 secs
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Best Local Similarity 100...
                                                                                                           TYPE: PRT
ORGANISM: Homo sapiens
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PRICEARY TEAR. No. 1920200048763A1
PRICEARY TEAR. SHAZEL DAVIG R.
APPLICANT: RAIA. DAVIG R.
APPLICANT: RAIA. DAVIG R.
APPLICANT: CHEN, WENEARD SINGLE EXON NUCLEIC ACID PROBES USEFUL FOR TITLE OF INVENTIOR: HEAMA GENOWE-DERIVED SINGLE EXON NUCLEIC ACID PROBES USEFUL FOR TITLE OF INVENTIOR: HEAMA GENOWE-DERIVED SINGLE EXON NUCLEIC ACID PROBES USEFUL FOR TITLE OF INVENTIOR: HEAMA GENOWE-DERIVED SINGLE EXON NUCLEIC ACID PROBES USEFUL FOR TITLE OF INVENTIOR: HEAMA GENOWE-DERIVED SINGLE EXPENSES AND STATE STOOL-05-20
PRIOR PELICATION NUMBER: US 001-05-30
PRIOR PELICATION NUMBER: US 001-01-30
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US-09-949-375A-12
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FILE REFERENCE: 3631-0111P
CURRENT APPLICATION NUMBER: US/09/949,375A
CURRENT FILING DATE: 202-01-18
NUMBER OF SEQ ID NOS: 38
SEGTWARE: PATENTIN version 3.1
SEQ ID 0.12
LENGTH: 55
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 41804, Application US/09864761
Patent No. US20020048763A1
                                                                                                                                                                                                                                          TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-09-864-761-41804
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GenCore version 5.1.3
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OM protein - protein search, using sw model

January 29, 2003, 10:42:07; Search time 10.8727 Seconds (without alignments) 114.943 Million cell updates/sec Run on:

34 1 XXXXXXWTLKXXX 13 US-09-707-738-23 Title: Perfect score: Sequence:

Scoring table:

BLOSUM62 Gapop 10.0 , Gapext 0.5

Total number of hits satisfying chosen parameters: 283224 seqs, 96134422 residues Searched:

283224

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

PIR 73:*
1: pir1:*
2: pir2:*
3: pir3:*
4: pir4:* Database :

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Description	Jankotriana B.4 12	l prot	10	potential	potential	hetical pr			translation repres	hypothetical prote	hypothetical prote		hypothetical prote					conserved hypothet	hypothetical prote	_	hypothetical prote		hypothetical prote			31K outer-membrane	hydothetical prote	conserved hypothet	conserved hypothet	
ID	A47421	AB1984	S35586	IHKREV	IHTFER	D97355	\$23863	A41384	A45385	C97299	T12B58	G90472	F90143	C90295	E72731	T29392	869658	H89784	G89764	A83965	T48641	T00789	T46695	E69170	F97063	AD3302	C97558	AG2778	C69063	
DB	5	7	7	7	7	~	7	7	0	0	~	N	7	0	7	7	7	~	7	~	7	0	7	7	~	7	7	~1	7	
% Query Match Length	14	70	81	82	85	90	96	104	122	127	134	137	152	152	159	160	163	164	172	173	175	177		187	201	201	201	201	203	
% Query Match	73.5	73.5		ë.		73.5		ä.	ë.	ë,	•		73.5		٠	73.5			•	73.5	٠	73.5	•	٠		73.5	•		•	
Score	25	25	25	25	25	25	25	25	25	25	52	25	25	25	25	25	52	22	25	52	25	25	25	25	25	25	25	25	25	
Result No.		61	9	4	S	9	7	ю .	σ,	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	

hypothetical prote	SSU ribosomal prot	E4 protein - cotto	hypothetical prote	hypothetical prote	31K outer-membrane	proteasome activat	proteasome activat	hypothetical prote	hypothetical prote	hypothetical prote	ricin E - castor b	conserved hypothet	hypothetical prote	probable permease	hypothetical prote
C70029	H69539	W4WLRB	AF1898	D71693	AC3615	167638	153518	T45814	T23077	D87397	806330	B95259	E98124	H98208	AI3077
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207	211	212	217	218	219	238	239	240	249	252	263	264	264	266	266
73.5	73.5	73.5	73.5	73.5	73.5	73.5	73.5	73.5	73.5	73.5	73.5	73.5	73.5	73.5	73.5
25	52	52	52	25	25	52	52	52	25	52	25	25	52	52	25
30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45

	RESULT 1
	A47421
	leukotriene B-4 12-hydroxydehydrogenase (EC 1.1.1) - pig (fragment)
	C;Species: Sus scrofa domestica (domestic pig)
	C;Date: 19-May-1995 #sequence_revision 19-May-1995 #text_change 17-Mar-1999
	C;Accession: A47421
	R;Yokomizo, T.; Izumi, T.; Takahashi, T.; Kasama, T.; Kobayashi, Y.; Sato, F.; Taketani,
	J. Biol. Chem. 268, 18128-18135, 1993
	A; Title: Enzymatic inactivation of leukotriene B-4 by a novel enzyme found in the porcin-
	A; Reference number: A47421; MUID: 93352633; PMID: 8394361
_	A; Accession: A47421
	A;Status: preliminary
	A; Molecule type: protein
	A;Residues: 1-14 <yok></yok>
	C;Keywords: oxidoreductase
	1
	Udery watch 7.5.5%; Score 25; DB 2; Length 14; Best Local Similarity 100.0%; Pred No 10.
	Oy 7 WTLK 10
_	
	Db 6 WILK 9
	RESULT 2
	hypothetical according fileness ()

hypothetical protein as11421 [imported] - Nostoc sp. (strain PCC 7120)
C.Species Nostoc sp.
C.Species Nostoc sp.
A.Note: Nostoc sp.
A.Note: Nostoc sp.
A.Note: 14-Dec-2001 #sequence_revision 14-Dec-2001 #text_change 30-Jun-2002
C.Date: 14-Dec-2001 #sequence_revision 14-Dec-2001 #text_change 30-Jun-2002
C.Accession: AB1984
R.Kaneko, T.; Nakamura, Y.; Wolk, C.P.; Kuritz, T.; Sasamoto, S.; Watanabe, A.; Iriquchi, Nakazaki, N.; Shimpo, S.; Sugimoto, M.; Takazawa, M.; Yamada, M.; Yamada, M.; Tabata, S.
DNA Res B, 205-213, 2001
A.;Title: Complete Genomic Sequence of the Filamentous Nitrogen-fixing Cyanobacterium Anat
A.Reference number: AB1807; MUID:21595285; PMID:11759840
A.;Reference number: DNA
A.;Residues: Drellminary
A.;Residues: DNA
A.;Residues: 1-70 < KUR>
A.;Cross-references: GB:BA000019; PIDN:BAB73378.1; PID:g17130768; GSPDB:GN00179
A.;Experimental source: strain PCC 7120
C.Genetics:
A.;Gene: as11421

Gaps . 0 Query Match 73.5%; Score 25; DB 2; Length 70; Best Local Similarity 100.0%; Pred. No. 97; Matches 4; Conservative 0; Mismatches 0; Indels

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7 WTLK 10 δ

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high potential iron-sulfur protein - Thiocapsa roseopersicina (tentative sequence) c; Species: Thiocapsa roseopersicina (c; Species: Thiocapsa roseopersicina (c; Species: Thiocapsa roseopersicina (c; Species: 10.4 Mar-1981 #sequence_revision 31-Mar-1981 #text_change 31-Mar-2000 (c; Accession: A00264 (s; R.T.B.; Bartsch, R.G.; Kamen, M.D. J. Bolo. Chem. 256, 731-735, 1981 (signal potential, four-iron-sulfur ferredoxins from the purfactoric number: A; Reference number: A92330; MUID:81094036; PMID:7451471
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DW. Abbertage of the protein CAC3711 [imported] - Clostridium acetobutylicum Cispecies: Clostridium acetobutylicum ATCC8216 Cispecies: Clostridium acetobutylicum ATCC8216 Cispecies: Clostridium acetobutylicum ATCC824
A;Title: Comparison of oxidation-reduction site geometries in oxidized and reduced Chrome A;Reference number: A92161; MUID:75019502; PMID:4417854
A;Contents: annotation; X-ray crystallography
A;Note: structures of the oxidized and reduced forms are compared with each other and with C;Superfamily: high potential iron-sulfur protein
C;Superfamily: high potential iron-sulfur protein
C;Keyword8: 4Fe-4S; electron transfer; iron-sulfur protein; metalloprotein
F;43,46,63,77/Binding site: 4Fe-4S cluster (Cys) (covalent) #status experimental
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0
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A;Residues: 1.85 <TED>
C;Superfamily: high potential iron-sulfur protein
C;Keywords: 4Fe-4S; electron transfer; iron-sulfur protein; metalloprotein
F;43,46,63,77/Binding site: 4Fe-4S cluster (Cys) (covalent) #status predicted
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                                                                                                                                                                                                                                                  73.5%; Score 25; D8 1; Length 85; 100.0%; Pred. No. 1.2e+02; rative 0; Mismatches 0; Indels
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llarity 100.0%; Pred. No. 1.2e+02;
Conservative 0; Mismatches 0;
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Best Local Similarity 100.
Matches 4; Conservative
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Matches 4; Conserv
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A.Molecule type: protein
A.Molecule type: protein
A.Rosidues: 1-10, N',12-44, D', 46-85 < DUS>
A.Rosidues: 1-10, N',12-44, D', 46-85 < DUS>
A.Rosidues: 1-10, N',12-44, D', 46-85 < DUS>
A.Rosidues: 1-10, N',12-44, D', A', Kastrau, D.H.W.; Luchinat, C.; Sompornpisut, P. Submitted to the Brookhaven Protein Data Bank, January 1995
A.Roference number: A65814; PDB: LHW
A.Contents: annotation; Conformation by (1)H-NWB, reduced form, residues 1-85
A.Rolecence number: A66207; PDB: LNBH
A.Roference number: A66207; PDB: LNBH
A.Contents: annotation; conformation by (1)H-NMB, oxidized form, residues 1-85
R.Backes, G.; Mino, Y.; Lochr, T.M.; Meyer, T.E.; Cusanovich, M.A.; Sweeney, W.V.; Adman
A.Rolecence number: A44688
A.Rolecence number: A44688
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A.Rolecence number: A44688
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A)Contents: annotation; X-ray crystallography, 2.0 angstroms
A)Contents: annotation; X-ray crystallography, 2.0 angstroms
A)Contents: annotation; X-ray crystallography, 2.0 angstroms
A)Contents: annotation; X-ray crystallography, 2.1 angstroms
B)Contents: A124-4255, 1974
B)Contents: A126-4255, 1974
A)Contents: A126-4255, 1974
A)Contents: A126-4255, 1974
A)Contents: annotation; X-ray crystallography, 2.0 angstroms
B)Contents: A339-6346, 1974
B)Contents: A249, 6339-6346, 1974
B)Contents: A249, 6339-6346, 1974
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         C;Date: 24-Apr-1984 #sequence_revision 24-Oct-1997 #text_change 15-Sep-2000
C;Accession: A93330; A92143; A00263
T;Tedro, S.M.; Meyer, T.E.; Bartsch, R.G.; Kamen, M.D.
J. Biol. Chem. 256, 731-735, 1981
A;Title: Primary structures of high potential, four-iron-sulfur ferredoxins from the pur A;Reference number: A92330; MUID:81094036; PMID:7451471
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A,Wolecule type: protein
A,Mesidues: 1-73,"D-75-86 <TED>
R,Shasidues: 1-73,"D-75-86 <TED>
B,Shasidues: 1-73,"D-75-86 <TED>
J. Biol. Chem. 248, 7318-7331, 1973
A;Title: The complete amino acid sequence of Chromatium high potential iron sulfur protein muber: A92143; MUID:74012043; PMID:4745771
A,Reference number: A92143
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          high potential iron-sulfur protein [validated] - Chromatium vinosum N;Alternate names: HIPIP
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Pred. No. 1.1e+02;
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100.0%; Pred. No. ...
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Best Local Similarity 100.
Matches 4; Conservative
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                                17 WTLK 20
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hypothetical protein CAC3248 [imported] - Clostridium acetobutylicum C.Species: C97299
R.Molling, J.; Breton, G.; Omelchenko, M.V.; Markarova, K.S.; Zeng, Q.; Gibson, R.; Lee, J. Bacteriol. 183, 4833-4838, 2001
A.Title: Genome Sequence and Comparative Analysis of the Solvent-Producing Bacterium Clos A.Reference number: A86900; MUID:21359325; PMID:21359325
A.Status: preliminary
A.Recession: C9729
A.Status: DNA
A.Residues: 1.127 < KUR>
A.Residues: 1.127 < KUR>
A.Residues: 1.127 < KUR>
A.Residues: Cossiminary
A.Residues: Cossiminary
A.Recences: GB:AE001437; PIDN:AAK81182.1; PID:g15026321; GSPDB:GN00168
A.Recence: CAC3248
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Asketence number: 21583
Asketence number: 21583
Asketence number: 21583
Asketence number: 21583
Asketeus: preliminary; translated from GB/EMBL/DDBJ
Asketus: preliminary; translated from GB/EMBL/DDBJ
Asketus: preliminary; translated from GB/EMBL/DDBJ
Asketus: preliminary; translated from GB/EMBL/BDBJ
Asketus: 1.134 cLaZz
Asketus: preliminary; Ts. Ogasawara, Nr. Moscetus: Ts. Albertini, A.M.; Alloni, G.; Azevedo, Vr.; Berter: C.; Broni, B.; Bronillet, S.; Bruschi, C.V.; Caldwell, B.; Capuano, V.; Carter, N.M.; Chol Nature 390, 249-256, 1997
Askuthors: Foulger, D.; Fritz, C.; Fujita, M.; Fujita, Y.; Fuma, S.; Galizzi, A.; Galler: Askuthors: Foulger, D.; Fritz, C.; Fujita, M.; Fujita, Y.; Fuma, S.; Galizzi, A.; Galler: Askuthors: Lauber, J.; Lazarevic, V.; Leo, S.M.; Levine, A.; Liu, H.; Masuda, S.; Maule, Y., M.; Ogawa, K.; Cogiveran, A.; Nodega, B.; Rosche, B.; Rosche, B.; Rosch, M.; Sadaie, Y.; Sato, T.; Scanlon, Askuthors: Schleich, S.; Schroeter, R.; Scoffone, F.; Sekiguchi, J.; Sekowska, A.; Seror, Askuthors: Yoshikawa, H.; Tamanoch, A.; Tarspeira, P.; Toganoch, V.; Urbiyama, T.; Winters, P.; Wipat, A.; Tamamoto, H.; Yamanock, K.; Yasumocko, V.; Voshida, K.; Astuthors: Yoshikawa, H.; Danchin, A.; Danchin, A.; Accession: F69918
Asketence number: Aspeter genome sequence of the Gram-positive bacterium Bacillus subtilis. Asketence number: R69918
Asketence number: R69918
Asketence number: Aspeter aspectation and aspeters of the Gram-positive bacterium askillus.
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Cibate: 13-Mug-1999 #sequence_revision 13-Aug-1999 #text_change 20-Jun-2000
CiAccession: T12858; F69918 #sequence_revision 13-Aug-1999 #text_change 20-Jun-2000
CiAccession: T12858; F69918 #sequence SPBC2
Submitted to the EMBL bata Library, August 1997
A;Description: The Complete nucleotide sequence of the Bacillus subtilis SPbetac2 prophage.
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A.Cross-references: GB:299114; GB:299115; GB:AL009126; NID:g2634478; PIDN:CAB13991.1; PII
A.Bxperimental source: strain 168
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                                                                                                                    112 WTLK 115
                          7 WTLK 10
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Cipecies: Naja naja atra (Chinese cobra)
Cipecies: Naja naja atra (Chinese cobra)
Cipate: 30-Jun-1992 #sequence_revision 30-Jun-1992 #text_change 20-Aug-1999
CiAccession: A41384
Rivenaman, D.; Barchan, D.; Horowitz, M.; Kochva, E.; Fuchs, S.
Proc. Natl. Acad. Sci. U.S.A. 86, 7255-7259, 1989
A;Title: Snake acetylcholine receptor: cloning of the domain containing the four extrace A;Reference number: A41384; MUID:89386720; PMID:2780569
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CiSpecies: phage RB69
CiAccession: A45385
RiJozwik, C.E.; Miller, E.S.
RiJozwik, C.E.; Miller, E.S.
A;Title: Regions of bacteriophage T4 and RB69 RegA translational repressor proteins that A;Reference number: A45385; MUID:92279264; PMID:1594613
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Ayporthetical protein 2 - garlic mosaic virus
C;Species: garlic mosaic virus, GarMV
C;Species: garlic mosaic virus, GarMV
C;Species: garlic mosaic virus, GarMV
C;Date: 20-Feb-1995 #sequence_revision 20-Feb-1995 #text_change 08-Oct-1999
C;Accession: S23863
A;Cobi, Y. H.; Choi, Y. H.; Choi, Y. D.; Lee, J.S.
A;Description: Nucleotide sequence of a cDNA for garlic mosaic virus.
A;Recence number: S23862
A;Cocssion: S23863
A;Accession: S23863
A;Cocssion: S23863

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A;Molecule type: DNA
A;Mosicus: 1-122 <JOZ>
A;Gross-references: GB:M86231; NID:g215354; PIDN:AAA32295.1; PID:g215356
C;Genetics:
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A;Residues: 1.104 <NBU>
A;Cross-references: GB:MZ6388; NID:g213370; PIDN:AAA49384.1; PID:g213371
C;Superfamily: acetylcholine receptor
C;Keywords: neurotransmitter receptor
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match 73.5%; Score 25; DB 2; Length 96; Best Local Similarity 100.0%; Pred. No. 1.3e+02; Matches 4; Conservative 0; Mismatches 0; Indels
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C;Superfamily: phage T4 translation repressor
C;Keywords: RNA binding; translation repressor
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hes 4; Conservative
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58 WTLK 61
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Pypothetical protein APE0390 - Aeropyrum pernix (strain K1)
C;Species: Aeropyrum pernix
C;Accession: E32731
R;Kawarabayasi, Y.; Hino, Y.; Horikawa, H.; Yamazaki, S.; Haikawa, Y.; Jin-no, K.; Takahawa, H.; Takamiya, M.; Masuda, S.; Punahashi, T.; Tanaka, T.; Kudoh, Y.; Jin-no, K.; Takahawa, H.; Takamiya, M.; Masuda, S.; Punahashi, T.; Tanaka, T.; Kudoh, Y.; Jin-no, K.; Takahawa, T.; Lile: Complete genome sequence of an aerobic hyper-thermophilic Crenarchaeon, Aeropyrula, A;Accession: E72731
A;Accession: E72731
A;Status: preliminary
A;Molecule type: DMA
                                                                                                                                                                                                                                                                                                                                                                                                              hypothetical protein SSO1384 [imported] - Sulfolobus solfataricus transposon ISC1078 C; Species: Sulfolobus solfataricus complete genome.
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A;Molecule type: DNA
A;Residues: 1-152 <KUR>
A;Arcoss-references: GB:AE006641; NID:g13814600; PIDN:AAK41618.1; GSPDB:GN00155
A;Genei.cs: SS01384
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A,Residues: 1-159 <KAW>
A;Cross-references: DDBJ:AP000059; NID:g5103911; PIDN:BAA79345.1; PID:g5104029
A;Experimental source: strain K1
C;Genetics:
A,Gene: APE0390
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                                                                                        Length 152;
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                                                                                  Ouery Match 73.5%; Score 25; DB 2; Length 152 Best Local Similarity 100.0%; Pred. No. 2.1e+02; Matches 4; Conservative 0; Mismatches 0; Indels
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   C;Genetics:
A;Gene: SSO0040; SSO1750; SSO2992; SSO1264
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A;Reference number: A99139
A;Accession: C90295
                                                                                                                                                                                                            7 WTLK 10
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C;Species: Sulfolobus solfataricus
C;Species: Sulfolobus solfataricus
C;Species: Sulfolobus solfataricus
C;Sate: 24-May-2001
S;She, Q: Singh, R.K.; Confalonieri, F.; Zivanovic, Y.; Allard, G.; Awayez, M.J.; Chan-Jong, I.; Jeffries, A.C.; Kozera, C.J.; Medina, N.; Peng, X.; Thi-Ngoc, H.D.; Redder, F submitted to GenBank, April 2001
A;Description: Sulfolobus solfataricus complete genome.
A;Reference number: A99139
A;Accession: G90472
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               hypothetical protein SS00040 [imported] - Sulfolobus solfataricus transposon ISC1078 C;Species: Sulfolobus solfataricus C;Species: Sulfolobus solfataricus C;Species: Sulfolobus solfataricus C;Date: 24-May-2001 #text_change 18-Jul-2001 C;Accession: F90143; C90336; C90480; G90280 R;She, Q.; Singh, R.K.; Confalonieri, F.; Zivanovic, Y.; Allard, G.; Awayez, M.J.; ChanJung, I.; Jeffries, A.C.; Kozera, C.J.; Medina, N.; Peng, X.; Thi-Ngoc, H.P.; Redder, F submitted to GenBank, April 2001 Appescription: Sulfolobus solfataricus complete genome.

A;Reference number: A99139
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A;Molecule type: DNA
A;Residues: 1-137 <KUR>
A;Cross-references: GB:AE006641; NID:g13816304; PIDN:AAK43038.1; GSPDB:GN00155
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A;Molecule type: DNA
A;Residues: 1-152 «KUR»
A;Cross.references: GB:AE006641; NID:g13813171; PIDN:AAK40405.1; GSPDB:GN00155
A;Accession: C90336
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A;Status: DNA
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A;Accession: C9480
A;Accession: C9480
A;Status: preliminary
A;Molecule type: DNA
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A;Status: preliminary
A;Molecule'type: DNA
A;Residues: 1-152 <KU4>
A;Cross-referençes: GB:AE006641; NID:g13814460; PIDN:AAK41502.1; GSPDB:GN00155
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A;Gene: yopX
C;Superfamily: Bacillus subtilis phage SPBc2 hypothetical protein yopX
                                                                                  Query Match 73.5%; Score 25; DB 2; Length 134; Best Local Similarity 100.0%; Pred. No. 1.9e+02; Matches 4; Conservative 0; Mismatches 0; Indels
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A;Gene: SSO2933
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GenCore version 5.1.3
Copyright (c) 1993 - 2003 Compugen Ltd.
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SUMMARIES

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

	Description	P80176 thermochrom	7		Q9miy2 brachydanio		Q9zb79 mycoplasma		Q01751 bacteriopha				Q9zdg6 rickettsia	P54149 bos taurus	Q63798 rattus norv	Q9u146 homo sapien			O78449 guillardia				_		Q8xb74 escherichia	P76342 escherichia		Q9k8v2 bacillus ha	Q9pyy5 xestia c-ni		Q28719 oryctolagus		1059 borrelia b	P55103 homo sapien
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This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the Buropean Bioinformatics Institute. There are no restrictions on its by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
SEQUENCE FROM N.A.
STAIR—ATC 824 / DSM 792 / VKM B-1787;
MEDLINE=1355325; PubMed=11466286;
Noelling J., Breton G., Omelchenko M.V., Makarova K.S., Zeng Q.,
Selbson R., Lee H.M., Duboisa J., Qiu D., Hitti J., Wolf Y.I.,
Tatusov R.L., Sabathe F., Doucette-Stamm L., Soucaille P., Daly M.J.,
Bennett G.N., Koonin B.V., Smith D.R.;
Genome sequence and comparative analysis of the solvent-producing
bacterium Clostridium acceboulvillicum.";
J. Bacteriol. 183:4823-4838 (2001).
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                                                                                                        SEQUENCE FROM N.A.
STRAIN-ATCC 824 / DSM 792 / VKM B-1787;
MEDLINE-93273706; PubMed=8501044;
Sauer U., Duerre P.;
Sauer U., Duerne P.;
Sequence and molecular characterization of a DNA region encoding a small heat shock protein of Clostridium acetobutylicum.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDLINE=21549095; PubMed=11691861; Broughton R.B. wilam J.B. Roe Br. in Particular Broughter Sequence of the zebrafish (Danio rerio) mitochondrial genome and evolutionary patterns in vertebrate mitochondrial DNA."; Genome Res. 11:1958-1967(2011).
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15-JUN-2002 (Rel. 41, Last annotation update)
NADH-ubiquinone oxidoreductase chain 4L (EC 1.6.5.3)
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EMBL, AE007866, AAK81631.1, -
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-!- SIMILARITY: BELONGS TO THE HIGH POTENTIAL IRON-SULFUR PROTEIN (HIPIP) FAMILY.
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Bacteria: Firmicutes; Clostridia; Clostridiales; Clostridiaceae;
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                                                                                                                                        A Similarity 100.0%; Pred. No. 55; A Conservative 0; Mismatches 0; Indels
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METAL 43 43 IRON-SULFUR (4FE-4S)

METAL 46 46 IRON-SULFUR (4FE-4S)
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21-JUL-1986 (Rel. 01, Last sequence update)
15-JUL-2002 (Rel. 41, Last annotation update)
High potential iron-sulfur protein (HiPIP).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      01-FEB-1994 (Rel. 28, Created)
16-OCT-2001 (Rel. 40, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
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100.0%; Pred. No. cc.
... 0; Mismatches
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61 61
75 75
83 AA; 8786 MW;
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Best Local Similarity 100.
Matches 4; Conservative
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                                                                                                                                                Query Match
Best Local Similarity
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                                                                                                                                                                                                                                                                                        7 WTLK 10
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Y1B1_CLOAB
ID Y1B1_CLOAB
AC Q04353;
                                                                        SEQUENCE
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Length 104;

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modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                             MEDLINE-89386720; PubMed=2780569; M. Kochva E., Fuchs S.; Neumann D., Barchan D., Horowitz M., Kochva E., Fuchs S.; Neumann D., Barchan D., Horowitz M., Kochva E., Fuchs S.; Neumann D., Steening the four extracellular oyeteines of the alpha subunit."; Proc. Natl. Acad. Sci. U.S.A. 86,7255-7259 (1989).

-! FUNCTION: AFTER BINDING ACETYLCHOLINE, THE ACHR RESPONDS BY AN EXTENSIVE CHANGE IN CONFORMATION THAT AFPECTS ALL SUBINITS AND LEADS TO OPENING OF AN ION-CONDUCTING CHANNEL ACROSS THE PLASMA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SUBUNIT: PENTAMER OF TWO ALPHA CHAINS, AND ONE EACH OF THE BETA,
                                                                                                                                                                                                                                                                                                                            01-JAN-1990 (Rel. 13, Last sequence update)
15-JUN-2002 (Rel. 41, Last annocation update)
Acetylcholine receptor protein, alpha chain (Fragment).
Naja naja (Indian cobra).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Lepidosauria; Squamata; Scleroglossa; Serpentes; Colubroidea;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DELTA, AND GAMMA CHAINS.
SUBCELLULAR LOCATION: Integral membrane protein.
SIMILARITY: BELONGS TO THE LIGAND-GATED IONIC CHANNEL FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EXTRACELLULAR.
BY SIMILARITY.
ASSOCIATED WITH RECEPTOR ACTIVATION.
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24 BY SIMILARITY.
5 ASSOCIATED WITH RECEPTOR 1
23 N-LINKED (GLCNAC. . .) (PI
104
; 12194 MW; 47A39E2C9BFBA7A0 CRC64;
                                                                                                                    Oxidoreductase; NAD; Ubiquinone; Mitochondrion.
SEQUENCE 98 AA; 10523 MW; 54C4B6230D23EF24 CRC64;
                                                                                                                                                                                                                                                                                           104 AA.
                                                                                                                                                                                 0; Mismatches
                                             EMBL, ACO24175; AAF74305.1; -.
ZFIN; ZDB-GENE-011205-11; mtnd41.
InterPro: IPR001133; Oxidored 4L.
InterPro: IRR003214; Oxidred4T.
Pfam; PF00420; Oxidored 42; I.
ProDom; PD000359; Oxidored42; 1.
                                                                                                                                                                                                                                                                                           PRT;
                                                                                                                                                                                                                                                                                                                  01-JAN-1990 (Rel. 13, Created)
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                                                                                                                                                                                 4; Conservative
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10
74
23
104 1
104 AA;
                                                                                                                                                                    Local Similarity
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P14143;
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SEQUENCE
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                                                                                                                                                                                                                                                                                           30-MAY-2000 (Rel. 39, Created)
30-MAY-2000 (Rel. 39, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
Holo-(argyl-carrier protein) synthase (BC 2.7.8.7) (Holo-ACP synthase)
(4'-phosphopantetheinyl transferase acpS).
ACPS OR MG211.1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.

MEDLINE=96026346; PubMed=7569993;

Fraser C.M., Gocayne J.D., White O., Adams M.D., Clayton R.A.,

Fraser C.M., docayne J.D., White O., Adams M.D., Clayton R.A.,

Pleischmann R.D., Bult C.J., Kerlavage A.R., Sutton G., Kelley J.M.,

Pleischmann J.L., Weidman J.F., Small K.V., Sandusky M., Fuhrmann J.L.,

Nguyen D.T., Utterback T.R., Saudek D.M., Phillips C.A., Merrick J.M.,

Tomb J.-F., Dougherty B.A., Bott K.F., Hu P.-C., Lucier T.S.,

The minimal gene complement of Mycoplasma genitalium.";
                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Probom; PD004282; ACPS; 1.
TIGRRAMS; TIGR00556; pantethn trn; 1.
Transferase; Lipid synthesis; Fatty acid biosynthesis; Magnesium;
                                              ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                            Mycoplasma genitalium.
Bacteria: Firmicutes; Mollicutes; Mycoplasmataceae; Mycoplasma
                                              Indels
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58 MAGNESIUM (BY SIMILARITY)
13153 MW; 8992BBB560373E92 CRC64;
                                              ;
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          100.0%; Prec. ...
  Score 25;
Pred. No.
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InterPro; IPR004568; Pantethn trn.
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                                            4; Conservative
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Query Match
Best Local Similarity
Matches 4; Conserv
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                                                                                          7 WTLK 10
                                                                                                                                       58 WTLK 61
                                                                                                                                                                                                                                                      ACPS MYCGE
Q9ZB79;
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                                                                                                                                                                                                             RESULT 6
ACPS MYCGE
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                                                                                                                                                                                                                                                                                                                                                                                                                   AMEDINE-20003126; PubMed=10531472;

AMEDINE-20003126; PubMed=10531472;

Parisini E. (apozzi F., Lubini P., Lamzin V., Luchinat C.,

Sheldrick G.M.;

The Sheldrick G.M.;

The Abinitio solution and refinement of two high-potential iron protein

The Acts Crystallogr. D 55:1773-1784(1999).

Acts Crystallogr. D 55:1773-1784(1999).

PERREDOXINS. FUNCTIONS OF HIGH-REDOX-POTENTIAL 4FE-4S

PERREDOXINS. FUNCTIONS IN ANARROBIC ELECTRON TRANSPORT IN MOST

PURPLE AND IN SOME OTHER PHOTOSYNTHEITC BACTERIA AND IN AT LEAST

ONE GENUS (PARACOCCUS) OF HALOPHILIC, DENTIFIEPING BACTERIA.

THE MIDPOINT REDOX POTENTIAL FOR THIS PROTEIN IS +360 MV.

-! SUBGILLLAR LACATION: PETIPLASMIC.

-! SUBGILLLAR LACATION: PETIPLASMIC.

-! SUBGILLLAR LACATION: PETIPLASMIC.

-! SUBGILLLAR LEGATION: PETIPLASMIC.

-! SUBGILLARITY: BELONGS TO THE HIGH POTENTIAL IRON-SULFUR PROTEIN
                                                                                                                                                                                                                                                                MEDLINE-96216867; PubMed-8639555;
Bentrop D., Bertini I., Cappozi F., Dikiy A., Eltis L., Luchinat C.;
"Three-dimensional structure of the reduced C778 mutant of the
Chromatium vinosum high-potential iron-sulfur protein through nuclear
magnetic resonance: comparison with the solution structure of the
wild-type protein.";
                                                                                                                       MEDLINE=95359150; PubMed=7632685; Bertini I., Dikty A., Rastrau D.H., Luchinat C., Sompornpisut P.; Bertini I., Dikty A., Rastrau D.H., Luchinat C., Sompornpisut P.; Inter-dimensional solution structure of the oxidized high potential iron-sulfur protein from Chromatium vinosum through NMR. Comparative analysis with the solution structure of the reduced species."; Blochemistry 34:9851-9868(1995)
                                                  potential iron-sulfur protein from Chromatium vinosum through NMR.";
Biochemistry 34:206-219(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               HIGH POTENTIAL IRON-SULFUR PROTEIN.
IRON-SULFUR (4FE-48).
IRON-SULFUR (4FE-48).
IRON-SULFUR (4FE-48).
N -> D (IN REF. 3).
                   Sompornpisut P., "The three-dimensional solution structure of the reduced high-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      InterPro; IPR000170; Hipot_ironsulf.
Proms PF01355, HIPIP, 1.
PRINTS, PR00374, HIPIPP, 1.
PROSITE, P800596; HIPIPP, 1.
Electron transport; Iron-sulfur; 4Fe-48; Periplasmic; Signal;
Bertini I., Dikiy A., Kastrau D.H.W., Luchinat
                                                                                                                                                                                                                                                                                                                                                                                                          X-RAY CRYSTALLOGRAPHY (0.93 ANGSTROMS).
                                                                                                                                                                                                                                                 STRUCTURE BY NMR OF MUTANT SER-114.
                                                                                                                                                                                                                                                                                                                                                                       Biochemistry 35:5928-5936(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EMBL; U81381; AAB48829.1; -.
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PDB, 1HFP, 15-APR-93
PDB, 1HRQ, 03-UNN-95.
PDB, 1HRR, 31-UUL-95.
PDB, 1NCH, 10-UN-96.
PDB, 1NCH, 10-UN-96.
PDB, 1NCH, 10-UN-96.
PDB, 1NCH, 11-UCC-98.
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                                                                                                          STRUCTURE BY NMR
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SIGNAL
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CONFLICT
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     0
                                                                                                                                                                                                                                                                                                                                                                                                                       STRAIN=D / ATCC 17899 / DSM 180, MEDLINE=97320627; PubMed=9177478, Bruser T., Truper H.G., Dahl C.; "Cloning and sequencing of the gene encoding the high potential ironsulfur protein (HiPIP) from the purple sulfur bacterium Chromatium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaillard J., Albrand J. P., Moulis J.-M., Wemmer D.E., Bequence-specific assignments of the 1H nuclear magnetic resonance spectra of reduced high-potential ferredoxin (HIPIP) from Chromatium
                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE OF 38-122.
STRAIN=D / ATCC 17899 / DSM 180;
MEDLINE=74012043; PubMed=4745771;
Dus K., Tedro S., Bartsch R.G.;
"The complete amino acid sequence of Chromatium high potential iron sulfur protein.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEDLINE-81094036; PubMed-7451471; Tedro S.M., Meyer T.E., Bartsch R.G., Kamen M.D.; Tedro S.M., Meyer T.E., Bartsch R.G., Kamen M.D.; Tructures of high potential, four-iron-sulfur ferredoxins from the purple sulfur photosynthetic bacteria, Thiocapsa roseoperaticina and Chromatium gracile."; Diol. Chem. 256:731-735(1981).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Bartsch R.G.;
"2-A crystal structure of oxidized Chromatium high potential iron
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0
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MEDLINE=74309824; PubMed=4855287;
Carter C.W. Ur., Kraut U., Freer S.T., Xuong N.H., Alden R.A.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDLINE-92135210; PubMed=1734968;
Nettesheim D.G., Harder S.R., Feinberg B.A., Otvos J.D.;
Sequential resonance assignments of oxidized high-potential fron-sulfur protein from Chromatium vinosum.";
Biochemistry 31:1234-1244(1992).
                                                                                                                                                                                                                                                                                                                                    Bacteria; Proteobacteria; gamma subdivision; Chromatiaceae, Allochromatium.
 73.5%; Score 25; DB 1; Length 114; 100.0%; Pred. No. 74; 0; Indels iive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                    High potential iron-sulfur protein precursor (HiPIP) HIP.
                                                                                                                                                                                                            P00260; P96753; Q9R4K3;
21-UUL-1986 (Rel. 01, Created)
15-DEC-1998 (Rel. 37, Last sequence update)
15-UUN-2002 (Rel. 41, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Biochim. Biophys. Acta 1352:18-22(1997).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Biol. Chem. 248:7318-7331(1973).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Biol. Chem. 249:4212-4225(1974).
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MEDLINE=95118989; PubMed=7819198;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Biochemistry 31:5632-5639(1992)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REVISIONS TO 48; 82 AND 111.
                                        4; Conservative
                                                                                                                                                                                                 STANDARD;
                   Local Similarity
                                                                                                                                                                                                                                                                                                                         Chromatium vinosum
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                                                                         7 WTLK 10
                                                                                                    54 WTLK 57
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     Query Match
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.

Whitmore 5.A., Settasatian C., Crawford J., Lower K.M., McCallum B.,
Whitmore 5.A., Settasatian C., Crawford J., Lower K.M., McCallum B.,
Seshadri R., Cornelisse C.J., Moerland E.W., Cleton-Jansen A.-M.,
Tipping A.J., Mathew C.G., Savnio M., Savoia A., Verlander P.,
Auerbach A.D., Van Berkel C., Pronk J.C., Doggett N.A., Callen D.F.,
"Characterization and screening for mutations of the growth arrest
specific 11 (GASII) and Cl6orf3 genes at 16q24.3 in breast cancer.",
Genomics 52:325-331(1988).
                                                                                                       Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                     Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
Mammalia; Butheria; Primates; Catarrhini; Hominidae; Homo.
NC81_TaxID=9606;
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                                                             DB 1; Length 122, 79;
                                                                                                       0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MISSING (IN SHORT ISOFORM).
    72 72 D->G: 100% ACTIVITY LOSS.
122 AA; 14431 MW; C4374CE90E16D1D3 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       125 AA; 12619 MW; ACCA40DBEE0A79B4 CRC64;
                                                                                                                                                                                                                                                                                   CP03 HUMAN STANDARD; PRT; 125 AA. 09517; 095176; 116-007-2001 (Rel. 40, Created) 16-007-2001 (Rel. 40, Last sequence update) 15-UTM-2002 (Rel. 41, Last annotation update) Protein C16orf3. C160RP3.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /FTId=VAR 010243.
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30-MAY-2000 (Rel. 39, Last sequence update)
116-OCT-2010 (Rel. 40, Last annotation update)
30S ribosomal protein $3Ae.
RPS3AE OR AF2320.
Archaeoglobus fulgidus.
                                                73.5%; Scor.
100.0%; Pred. No. '.'
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EMBL; AF050080; AAC69520.1; --
GGENW; HGNC:1197; C16orf3.
MIM; 605179; --
                                                                                                     4; Conservative
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nes 4; Conserv
                                                                  Query Match
Best Local Similarity
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027964;
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    MUTAGEN
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RS3A ARCFU
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CP03 HUMAN
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MEDINE-92229264; PubMed=1594613;

MEDINE-92229664; PubMed=1594613;

JOANIA C.E., Miller E.S.;

"Regions of bacteriophage T4 and RB69 RegA translational repressor proteins that determine RNA-binding specificity.";

Proc. Natl. Acad. Sci. U.S.A. 89:5053-5057(1992);

-!- FUNCTION: CONTROLS THE TRANSLATION OF A NUMBER OF PROTEINS (SUCH AS REGA ITSELF, RIIB AND AT LEAST 35 OTHERS) BY BINDING TO THEIR MRNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
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T4-like viruses.
                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 25; DB 1; Length 122;
Pred. No. 79;
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15-DEC-1998 (Rel. 37, Last sequence update)
15-DEC-1998 (Rel. 37, Last annotation update)
Translation repressor protein.
                                                                                                                                                                                                                                                                                                                                                                                                                              73.5%; Scor.
100.0%; Pred. No. /.,
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HSSP; P04528; 1REG.
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Best Local Similarity 100.
Matches 4; Conservative
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    119 :
122 AA;
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      117 WTLK 120
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Q01751:
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REGA_BRS6 8
ID AC Q01751
DT 15-DEC DT 15-DEC DT 15-DEC DE REGA...
DE BACTER DEC TA-11k
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                                                                                                 MEDLINES 199649343, bubMed-9389475;
Klenk H.-P., Clayton R.-J., Tombad-9389475;
Klenk H.-P., Clayton R.-J., Tombad-7-F., White O., Nelson K.E.,
Ketchum K.A., Dodson R.-J., Gwinn M., Hickey E.K., Peterson J.D.,
Kichardson D.L., Kerlavage A.R., Graham D.E., Kyrpides N.C.,
Richardson D.L., Ouackenbush J., Lee N.H., Sutton G.G., Gill S.,
Kirkness E.F., Dougherty B.A., McKenney K., Adams M.D., Loftus B.,
Kirkness E.F., Dougherty B.A., McKenney K., Adams M.D., Loftus B.,
Overbeek R., Gocayne J.D., Weidman J.F., McDonald L., Utterhack T.,
Cotton M.D., Spriggs T., Artiach P., Kaine B.P., Sykes S.M.,
Bason T.M., Olsen G.J., Fraser C.M., Smith H.O., Woese C.R.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDLINE=85166175; PubMed=2984661; Giri I., Danos O., Yanıv M.; "Grizi I., Danos O., Yanıv M.; "Genomic structure of the cottontail rabbit (Shope) papillomavirus."; Proc. Natl. Acad. Sci. U.S.A. 82:1580-1584(1985).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                 "The complete genome sequence of the hyperthermophilic, sulphate-
                                                                                                                                                                                                                                                                                                                                                                                                                           -!- SIMILARITY: BELONGS TO THE S3AE FAMILY OF RIBOSOMAL PROTEINS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Cottontail rabbit (shope) papillomavirus (strain Kansas) (CRPV). Viruses, dsDNA viruses, no RNA stage, Papillomaviridae,
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Pred. No. 1.4e+02;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             InterPro: IPR001593; Ribosomal S3AE.
Pfam; PF01015; Ribosomal S3Ae; 1.
ProDon; PD003035; Ribosomal S3AE; FALSE NEG.
PROSITE; PS01191; RIBOSOMAL S3AE; FALSE NEG.
Ribosomal protein; Complete proteome.
SEQUENCE 211 AA; 24334 MW; 3463C7042B0F2796 CRC64;
Archaea; Euryarchaeota; Archaeoglobi; Archaeoglobales;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       21-JUL-1986 (Rel. 01, Created)
1-JUL-1986 (Rel. 01, Last sequence update)
01-OCT-1996 (Rel. 34, Last annotation update)
Probable E4 protein.
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                                                                                                                                                                                                                                                                                                                                                                                reducing archaeon Archaeoglobus fulgidus.";
Nature 390:364-370(1997).
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                                                                                SEQUENCE FROM N.A.
STRAIN=VC-16 / DSM 4304 / ATCC 49558;
                    Archaeoglobaceae; Archaeoglobus
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Matches 4; Conserv
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P03124;
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VE4_CRPVK
ID VE4_CI
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                (See http://www.isb-sib.ch/announce/
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P54149; (Rel. 34, Created)
01-OCT-1996 (Rel. 34, Last sequence update)
15-UTN-2002 (Rel. 41, Last annotation update)
Peptide methionine sulfoxide reductase (BC 1.8-4.6) (Proteinmethionine-S-oxide reductase) (Peptide Met (O) reductase).
                                                                                                                                                                                                                                                                                                                                                                                                                        Rickettsia prowazekii.
Bacteria; Proteobacteria; alpha subdivision; Rickettsiales;
Rickettsiacea; Rickettsleae; Rickettsia.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       / Match 73.5%; Score 25; DB 1; Length 218; Local Similarity 100.0%; Pred. No. 1.46+02; nes 4; Conservative 0; Mismatches 0; Indels
                                                                                                                                              Length 212;
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Hypothetical protein; Complete proteome.
SEQUENCE 218 AA; 25780 MW; 2D8BDD7DB938F954 CRC64;
                                                                                                                212 AA; 24104 MW; 9FB8DA3FB14ADB5B CRC64;
 Usage
                                                                                                                                                               1.4e+02;
                                                                                                                                              DB 1;
                                                                                                                                                                                                                                                                                                                                                            30-MAY-2000 (Rel. 39, Created)
30-MAY-2000 (Rel. 39, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
Hypothetical protein RP363.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MILOCHOLIANIA., VALUE 396.133-140(1998).
                                                                                                                                                                                                                                                                                                                              218 AA.
 modified and this statement is not removed.
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                entities requires a license agreement (St
or send an email to license@isb-sib.ch).
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                                                               EMBL; K02708; -; NOT_ANNOTATED_CDS.
PIR; A03674; W4WLRB.
                                                                                                                                                                               4; Conservative
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                                                                                               Early protein.
SEQUENCE 212
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               mitochondria.
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ID Y363 RICPR
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                                                                    09UL46; 015129;
16-0CT-2001 (Rel. 40, Created)
16-0CT-2001 (Rel. 40, Last sequence update)
16-0CT-2001 (Rel. 40, Last annotation update)
Proceasome activator complex subunit 2 (Proceasome activator 28-beta
subunit) (PA28beta) (PA28b) (Activator of multicatalytic protease
subunit) (RA28beta) (RA28b) (Activator of multicatalytic protease
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
MEDLINE-95309399; PubMed=7789512;
Ahn J.Y., Tanahashi N., Akiyama K., Hisamatsu H., Noda C., Tanaka K.,
Chung C.H., Shibmara N., Willy P.J., Mott J.D., Slaughter C.A.,
DeMartino G.N.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEDLINE-99216442; PubMed=10199920; McCusker D., Wilson M., Trowsdale J.; McGusker D., Wilson M., Trowsdale J.; Morganization of the genes encoding the human proteasome activators PA28 alpha and PA28 beta."; Immunogenetics 49:418-445(1999).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
NCBI TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              "Primary structures of two homologous subunits of PA2B, a gamma-
interferon-inducible protein activator of the 20S proteasome.";
PBBS Lett. 366:37-42 [1995].
          Ahn J.Y., Tanahashi N., Akiyama K., Hisamatsu H., Noda C., Tanal
Chung C.H., Shibmara N., Willy P.J., Mott J.D., Slaughter C.A.,
DeMartino G.N.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         73.5%; Score 25; DB 1; Length 238; 100.0%; Pred. No. 1.5e+02; ative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          InterPro; IPR003185; PA28 alpha.
InterPro; IPR003186; PA28_beta.
InterPro; IPR003186; PA28_beta.
Pfam; PF02251; PA28_alpha. 1.
Pfam; PF022525; PA28_beta; 1.
Proteasome; Interferon induction.
SEQUENCE 238 AA; 26857 MW; AFA0F013CECEICD3 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 239 AA
                                                                                                                                                                                                                                                        -!- SIMILARITY: BELONGS TO THE PA28 FAMILY.
                                                                                                                                                                                                                                      -!- INDUCTION: BY INTERFERON GAMMA.
    MEDLINE=95309399; PubMed=7789512;
                                                                                                                                                                                                                                                                                                                                                                                                                                          EMBL; D45250; BAA08207.1; -. HSSP; Q06323; 1AVO.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Homo sapiens (Human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
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HUMAN
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    8
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                             Biochemistry 39:13307-13312 (2000)
-!- FUNCTION: HAS AN IMPORTANT FUNCTION AS A REPAIR ENZYME FOR PROTEINS THAT HAVE BEEN INACTIVATED BY OXIDATION. CAPALYZES THE REVERSIBLE OXIDATION-REDUCTION OF METHIONINE SULFOXIDE IN PROTEINS
                                                                                                                                                                                                                                                                                      MEDLINE=20519025; PubMed=11063566;
Lowther W.T., Brot N., Weissbach H., Matthews B.W.;
"Structure and mechanism of peptide methionine sulfoxide reductase, an
                                                                                                                                         TISSUE-Adrenal medulla;
MEDLINE-96312545; Pubmed-8700890;
MEDLINE-96312545; Pubmed-8700890;
MCSKOXIEZ J., Weissbach H., Brot N.;
"Cloning the expression of a mammalian gene involved in the reduction of methionine sulfoxide residues in proteins.";
Proc. Natl. Acad. Sci. U.S.A. 93:2095-2099(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                      CATALYTIC ACTIVITY: Protein L-methionine + oxidized thioredoxin = protein L-methionine S-oxide + reduced thioredoxin.
SIMILARITY: BELONGS TO THE MSRA MET SULFOXIDE REDUCTASE FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Rattus norvegicus (Rat).
Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
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16-OCT-2001 (Rel. 40, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
16-OCT-2001 (Rel. 40, Last annotation update)
Proteasome activator complex subunit 2 (Proteasome activator 28-beta subunit) (PA28beta) (PA28b) (Activator of multicatalytic protease subunit 2) (11S regulator complex beta subunit) (REG-beta).
                                Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
Bovidae; Bovinae; Bos.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              73.5%; Score 25; DB 1; Length 233; 100.0%; Pred. No. 1.5e+02; ive 0; Mismatches 0; Indels
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Oxidoreductase; 3D-structure.
SEQUENCE 233 AA; 25846 MW; 1F69D612723FBABA CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        238 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                      X-RAY CRYSTALLOGRAPHY (1.6 ANGSTROMS).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EMBL; U37150; AAC48539.1; -. PDB; 1FVA; 08-NOV-00. PDB; 1FVG; 08-NOV-00.
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                                                                                                                                                                                                                                                                                                                                             'anti-oxidation' enzyme.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local Similarity
                    Bos taurus (Bovine).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Pfam; PF01625; PMSR;
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SEQUENCE FROM N.A.
                                                                                                                           SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                          TO METHIONINE
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                                                                        Bovidae, Bovinae
NCBI_TaxID=9913;
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Gaps

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Search completed: January 29, 2003, 10:45:07 Job time: 7.90909 secs

7 WTLK 10 ||||| 112 WTLK 115

8 6

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January 29, 2003, 10:40:47; Search time 20.8 Seconds (without alignments) 128.779 Million cell updates/sec
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GenCore version 5.1.3
Copyright (c) 1993 - 2003 Compugen Ltd.
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Maximum Match 100%
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Gapop 10.0 , Gapext 0.5
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34
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Maximum DB seq length: 200000000
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Perfect score:
Sequence:
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		Description	O991n4 mus musculu	O8viv9 mycobacteri	O8vah9 white snot	09w7k4 naia haie.	OBVING STADINGO	O9h1x5 homo sapien	O8vwz8 anabaena sp	O98260 gadus morhu	091913 culex nigri	Ogar33 orvza sativ	O9bcv7 homo sapien	067664 garlic late	Ogicci human immun	Osadna simian-huma	085061 cottontail	Coice owed proport
SUMMARIES		ΙD	Q99LN4	6¥U180	Q8VAH9	Q9W7K4	OBVUW6	O9H1X5	Q8YWZ8	098260	091913	Q9AR33	Q9HCV7	067664	O910C1	OBODINB	085061	900960
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Q9G5F3         Celleporell           Q9BRA7         Q9BRA7         rhizobium l           Q97E6         G10stridium l           Q9408         Q93BRA8         stabhilococ l           Q64107         O64107         Dacteriopha l           Q8XG7         Q9Acriss staphilococ l         O64107           Q8XG7         Q9Acriss ltfolobus l           Q95LW6         Q9Ayur8 stiffolobus l           Q9MC73         Q9GBY2         Q9GBY2           Q9MC73         Q9GBY2         meacac fasc l           Q9MC73         Q9GBY2         Q9GBY2           Q9MC73         Q9GBY2         Q9ABY2           Q9MC73         Q9GBY2         Q9ABY3           Q9MC74         Q9ABY3         Q9ABY3           Q9ADP3         Q9ABY3         Q9ABY3           Q9ADP4         Q9ABY3         Q9ABY3           Q9ADP3         Q9ABY3         Q9ABY3           Q9ADP4         Q9ABP3         Q9ABP3           Q9ADP3         Q9ABP3         Q9ABP3           Q9ATE2         Q9ABP3         Q9ABP3           Q9ATE2         Q9ABP3         Q9ABP3           Q9ATE2         Q9ABP3         Q9ABP3           Q9ATE2         Q9ABP3	ALIGNMENTS  PRT; 46 AA.  Created) Last sequence update) Last annotation update) n. a; Craniata; Vertebrata; Buteleostomi; a; Sciurognathi; Muridae; Murinae; Mus. EMBL/GenBank/DDBJ databases. 3Rik. 704F20C1SD045368 CRC64;	Score 25; DB 11; Length 46;  pred. No. 1.70+02;  Mismatches 0; Indels 0; Gaps 0;  PRT; 54 AA.  Created)  Last sequence update)  Last annotation update)  1.
2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	7, (99, 1) 99, 11, 11, 11, 11, 11, 11, 11, 11, 11,	20, 10, 20, 11, 20, 11, 20, 11, 20, 11, 20, 11, 20, 11, 20, 11, 20, 11, 20, 11, 20, 11, 20, 11, 20, 11, 20, 11, 20, 11, 20, 11, 20, 20, 20, 20, 20, 20, 20, 20, 20, 20
73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5 73.5	1111 75 11.0 5	13.5.  Jarity 100.  Conservative  PRELIMINARY;  (TrEMBLE1. 22  (TrEMBLE1. 22  (TrEMBLE1. 22)
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	LIN4 LIN4; JUN-2001 JUN-2001 -DEC-2001 Octherical Infsptish malia; Eurycta; M malia; Eurycta;	Set Local Similatores Local Similatores 1 vol. 1 vo
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SEQUENCE FROM N.A.

TSUSUB-SKEEPTAL WIGCLE;

MEDLINES-21366406; PubMed=11504859;

Takacs Z., Wilhelmsen K.C., Sorota S.;

Mootinic Acetylcholine Receptor Is conserved.";

Mol. Biol. Evol. 18:1800-1809(2001).

InterPro. IPROUNTS, Neur Channel.

Peam; PPO2931; Neur Chan LED5. 1.

PROSITE; PSO0213; LIPOCALIN; UNKNOWN_1.
                                                                                                                                                                                                                            Gaps
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Lepidosauria; Squamata; Scleroglossa; Serpentes; Colubroidea;
Elapidae; Elapinae; Naja.
NCBI_TaxID=8639;
                                                                                                                                                                                                                                                                                                                                                                                                                                                              01-NOV-1999 (TrEMBLrel. 12, Created)
01-NOV-1999 (TrEMBLrel. 12, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
Muscle incotinic acetylcholine receptor alpha-subunit (Fragment).
ACHR-ALPHA.
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Bacteria; Firmicutes; Bacillus/Clostridium group; Bacillales;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    h 73.5%; Score 25; DB 13; Length 64; Similarity 100.0%; Pred. No. 2.4e+02; 4; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                              73.5%; Score 25; DB 12; Length 60; 100.0%; Pred. No. 2.3e+02; ive 0; Mismatches 0; Indels
                       STRAIN=TAIMAN;
LO C.-F., KOU G.-H.;
Lub C.-F., KOU G.-H.;
Lubnitted (OCT-2001) to the EMBL/GenBank/DDBJ databases.
EMBL; AF332093; AAL33437.1;
EMBL; AF440570; AAL89382.1;
EMBL; AP440570; AAL89382.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         64 64
64 AA; 7639 MW; 92414F6F166DB2F4 CRC64;
                                                                                                                                  60 AA; 7091 MW; 4B4D84190256B053 CRC64;
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Last annotation update)
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                                                                                                                                                                                                                                 4; Conservative
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                                                                                                                                                                                                          Best Local Similarity
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SEQUENCE FROM N.A.
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NCBI_TaxID=1290;
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SEQUENCE
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STRAIN-CDC 1551 / OSHKOSH;
Fleischmann R.D., Alland D., Eisen J.A., Carpenter L., White O.,
Peterson J., DeBoy R., Dodson R., Gwinn M.L., Haft D., Hickey E.,
Peterson J. F., Nelson W.C., Umayam L.A., Ermolaeva M.D., Salzberg S.L.,
Delcher A., Utterback T., Weidman J., Khouri H., Gill J., Mikula A.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STRAIN-TAIWAN;
MEDLINE=21844071; PubMed=11853398;
Chen L.L., Leu J.H., Huang C.J., Chou C.M., Chen S.M., Wang C.H.,
Chen L.L., Kou G.H.;
"Identification of a nucleocapsid protein (VP35) gene of shrimp white
spot'syndrome virus and characterization of the motif important for
targeting VP35 to the nuclei of transfected insect cells.";
[5]
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                                              Bacteria, Firmicutes, Actinobacteria, Actinobacteridae,
Actinomycetales, Corynebacterineae, Mycobacteriaceae, Mycobacterium.
                                                                                                                                                                                                                                                                                                    "Whole genome comparison of Mycobacterium tuberculosis clinical and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STRAIN=TAIWAN;
MEDLINE=20517548; PubMed=11062040;
MEDLINE=20517548; PubMed=11062040;
Wasi M.F., Yu H.T., Tzeng H.F., Leu J.H., Chou C.M., Huang C.J.,
Wang C.H., Lin J.Y., Kou G.H., Lo C.F.;
"Identification and characterization of a shrimp white spot syndivise WSSV) gene that encodes a novel chimeric polypeptide of cellular-type thymidine kinase and thymidylate kinase.";
Virology 277:100-110(2000).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.

SEQUENCE FROM N.A.

PROBLINE-21548311; PubMed=11689662;

Yang F., He d., Lin X., Li Q., Pan D., Zhang X., Xu X.;

"Complete genome sequence of the shrimp white spot bacilliform
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       73.5%; Score 25; DB 16; Length 54; 100.0%; Pred. No. 2e+02; tive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                              laboratory strains."; Submitted (APR-2001) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.

Yang F., He J., Lin X., Li Q., Pan D., Zhang X., Xu X.;
Submitted (DEC-2000) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                            54 AA; 5927 MW; 22E554F875A81BAF CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              01-MAR-2002 (TrEMBLrel. 20, Created)
01-MAR-2002 (TrEMBLrel. 20, Last sequence update)
01-MNR-2002 (TrEMBLrel. 21, Last annotation update)
WSv435 (WSSV494)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     60 AA.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 virus.";
J. Virol. 75:11811-11820(2001).
[2]
                                                                                                                                                                                                                                                                                                                                                                              EMBL; AE007036; AAK46016.1;
                            Mycobacterium tuberculosis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             4; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                   TIGE; MT1746; -.
Hypothetical protein.
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                                                                                                 NCBI_TaxID=1773;
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Matches
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Persson A.C., Stet R.J.M., Pilstroem L.; "Characterization of MHC class I and beta2-microglobulin sequences in Atlantic cod reveals an unusaully high number of expressed class I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A.

STARAIN=FRONIDAL993.

MEDLINE=21488685; PubMed=11602755;

Afonso C.L., Tulman E.R., Lu Z., Balinsky C.A., Moser B.A.,

Afonso C.L., Twok D.L., Kutish G.F.;

"Genome Sequence of a Baculovirus Pathogenic for Culex nigripalpus.";

J. Virol. 75:11157-11165(2001).
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                                                                                                                     Gaps
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Actinopterygii, Neopterygii, Teleostei, Buteleostei, Neoteleostei,
Acanthomorpha, Paracanthopterygii, Gadiformes, Gadidae, Gadus.
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                                                                      73.5%; Score 25; DB 16; Length 70; 100.0%; Pred. No. 2.6e+02; Live 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         73.5%; Score 25; DB 7; Length 72;
llarity 100.0%; Pred. No. 2.7e+02;
Conservative 0; Mismatches 0; Indels
       Hypothetical protein; Complete proteome.
SEQUENCE 70 AA; 8009 MW; 764CE5F9AC236DDA CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  72 AA; 8264 MW; FB260EAB403169BE CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Culex nigripalpus baculovirus.
Viruses; dsDNA viruses, no RNA stage; Baculoviridae.
NCBI_TaxID=130556;
                                                                                                                                                                                                                                                                                                                                                        01-MAY-1999 (TrEMBLrel. 10, Created)
01-MAY-1999 (TrEMBLrel. 10, Last sequence update)
01-UNN-2002 (TrEMBLrel. 21, Last annotation update)
MHC Class I antigen (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  01-DEC-2001 (TrEMBLrel. 19, Created)
01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Immunogenetics 50:49-59(1999).
EMBL; AJ133450; CAB38040.1; -.
InterPro; IPRO01039; MHC I.
ProDom; PD000050; MHC I.
NON TER
1 1 72 72
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gadus morhua (Atlantic cod)
                                                Query Match
Best Local Similarity 10v.v.
                                                                                                                                                                                                                                                                                                                    PRELIMINARY;
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ses 4; Conserv
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                                                                                                                                                            7 WTLK 10
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Q91913;
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Matches
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Katayama Y., Ito T., Hiramatsu K.;
"Localization of staphylococcal cassette chromosome in methicillin susceptible Staphylococci.";
Submitted (JUN-201) to the EMBL/GenBank/DDBJ databases.
EMBL; AB063171; BAB83492.1;
SEQUENCE 68 AA; 7842 MW; 57892E6E55D470DC CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                       01-MAR-2001 (TrEMBLrel. 16, Created)
01-MAR-2001 (TrEMBLrel. 16, Last sequence update)
01-UN-2001 (TrEMBLrel. 17, Last annotation update)
BA16L21.1.3 (NADP-dependent leukotriene B4 12-hydroxydehydrogenase (isoform 3)).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                X MEDLINE-21595285; PubMed=11759840;
X MEDLINE-21595285; PubMed=11759840;
X A Kaneko T., Nakamura Y., Wolk C.P., Kuritz T., Sasamoto S.,
A Watanabe A., Irigucin M., Ishikawa A., Kawashima K., Kimura T.,
Kishida Y., Kohara M., Matsumoto M., Matsuno A., Muraki A.,
A Nakazaki N., Shimpo S., Sugimoto M., Takazawa M., Yamada M.,
A Yasuda M., Tabata S.,
Complete genomic sequence of the filamentous nitrogen-fixing
T yeanobacterium Anabaena sp. strain PCC 7120.",
DNA Res. 8:205-213(2001).
E EMBL; AP001585; BAB73378:1; -.
E EMBL; AP001585; HTH 3.
R Fam.; PF01881; HTH 3.
R Fām.; PF01881; HTH 3.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Homo sapiens (Human).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
NCBI_TaxID=9606;
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                                                                                                                                                            Length 68;
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Bacteria; Cyanobacteria; Nostocales; Nostocaceae; Nostoc.
NCBI_TaxID=103690;
                                                                                                                                                                                                      0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Laird G.;
Submitted (DEC-2000) to the EMBL/GenBank/DDBJ databases.
EMBL; Ali35787; CAC22152.1; -
SEQUENCE 70 AA; 7983 MW; E77FF1214CF13142 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   01-MAR-2002 (TrEMBLrel. 20, Created)
01-MAR-2002 (TrEMBLrel. 20, Last sequence update)
01-UNM-2002 (TrEMBLrel. 21, Last annotation update)
Hyporhetical protein Asl1421.
                                                                                                                                                       th 73.5%; Score 25; DB 2; Le Similarity 100.0%; Pred. No. 2.6e+02; 4; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                         70 AA.
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Best Local Similarity
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7 WTLK 10
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genes between long-term
human immunodeficiency virus type 1
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01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
01-NOV-1996 (TrEMBLrel. 19, Last annotation update)
0RF2 protein.
0RF2 protein.
0RF1ic latent virus E29-6.
viruses; ssRNA positive-strand viruses, no DNA stage; Carlavirus.
NCB1_TaxID=143616;
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                                                                                                                                                                                                                                                                                                                                                                                                                       [1] SEQUENCE FROM N.A. Choi Y.D., Lee J.S.; Choi J.N., Choi Y.H., Choi Y.D., Lee J.S.; "Nucleotide sequence of a cDNA for garlic mosaic virus."; Submitted (JUN-1992) to the EMBL/GenBank/DDBJ databases. EMBL; X67134; CDAPAG44.1; -. SEQUENCE 96 AA; 10771 MW; A48BDB45E2F7CF25A CRC64;
                                                                                 Length 94;
Clark G.;
Submitted (FEB-2001) to the EMBL/GenBank/DDBJ databases.
EMBL; AL109906; CAC03742.1; -.
SEQUENCE 94 AA; 11060 MW; E0AB7D817989A06C CRC64;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         01-0CT-2000 (TrEMBLrel. 15, Created)
01-0CT-2000 (TrEMBLrel. 15, Last sequence update)
01-UUN-2002 (TrEMBLrel. 21, Last annotation update)
Upr protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Human immunodeficiency virus type 1.
Viruses, Retroid viruses, Retroviridae, Lentivirus.
VCBI_TaxID=11676;
                                                                               73.5%; Score 25; DB 4; Le 100.0%; Pred. No. 3.5e+02; ative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          96 A.A.
                                                                                                                                                                                                                                                                     96 AA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Arch. Virol. 145:1021-1027(2000).
EMBL; AB034523; BAA93970.1; -.
InterPro; IPR00012; RetroV_VpK/X.
Pfam; PR00522; VPR; 1.
PRINTS; PR00444; HIVVPRVPX.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Yamada T., Iwamoto A.; "Comparison of proviral accessory nonprogressors and progressors of infection.";
                                                                               Query Match
Best Local Similarity 100.
Matches 4; Conservative
                                                                                                                                                                                                                                                                   PRELIMINARY;
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Best Local Similarity
Matches 4; Conserv
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Q67664;
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Q67664
ID Q67664
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Q9IQC1
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01-UNN-2001 (TrEMBLrel. 17, Last sequence update)
01-UNN-2001 (TrEMBLrel. 17, Last sequence update)
01-UNN-2001 (TrEMBLrel. 17, Last annotation update)
01-S037A05.26 protein (P0554D10.2 protein).
07253 sativa (Rice).
07253 sativa (Rice).
Spermatophyta, Viridiplantae, Streptophyta; Embryophyta; Tracheophyta; Spermatophyta, Magnoliophyta, Liliopsida; Poales; Poaceae;
Enthaltoideae; Oryzeae; Oryzea.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Homo sapiens (Human).
Bukaryota, Metazoa, Chordata, Craniata, Vertebrata, Buteleostomi,
Mammālia; Butheria, Primates, Catarrhini; Hominidae, Homo.
NCBI_TaxID=9606;
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STRAIN=CV. NIPPONBARE;
Saraki T., Matsumoto T., Yamamoto K.;
Oryas astiva nipponbare (GA3) genomic DNA, chromosome 1, PAC clone:P0554D10.",
Submitted (SFP-2000) to the EMBL/GenBank/DDBJ databases.
EMBL; AP002941: BAB3927.1; -
EMBL; AP002969; BAB39218.1; -
SEQUENCE 92 AA; 10627 MW; 30D6BD50E14804DD CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STRAIN=CV. NIPPONBARE;
Sasaki T., Matsumoto T., Yamamoto K.;
"Oryza sativa nipponbare(GA3) genomic DNA, chromosome 1, PAC
clone:P0537A65.";
Submitted (NOV-2000) to the EMBL/GenBank/DDBJ databases.
              Afonso C.L., Tulman E.R., Lu Z., Balinsky C.A., Moser B.A., Becnel J.J., Rock D.L., Kutish G.F.; Submitted (JUL-2001) to the EMBL/GenBank/DDBJ databases. EMBL; AF403739; AAF94172.1; -. Hypotherical protein. SEQUENCE 89 AA; 10561 MW; 01F0A22D2C792541 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        73.5%; Score 25; DB 10; Length 92; 100.0%; Pred. No. 3.4e+02; Live 0; Mismatches 0; Indels
                                                                                                                                Query Match 73.5%; Score 25; DB 12; Length 89; Best Local Similarity 100.0%; Pred. No. 3.3e+02; Matches 4; Conservative 0; Mismatches 0; Indels
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01-MAR-2001 (TrEMBLrel. 16, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
DJ1153D9.3. (novel protein).
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 STRAIN=FLORIDA1997;
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Q9HCV7
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MEDLINE=21851104; PubMed=11861859;
MEDLINE=21851104. PubMed=11861859;
Pekrun K., Shibata R., Igazashi T., Reed M., Sheppard L., Patten P.A.,
Stemmer W.P.C., Martin M.A., Soong N.W.;
"Evolution of a human immunodeficiency virus type 1 variant with
enhanced replication in pig-tailed macaque cells by DNA shuffling.";
J. Virol. 76:2924-2935(2002).
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Strain-1B3;

Strain-1B3;

Strain-1B3;

Strain-1B3;

Strain-1B3;

Strain-1B4;

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"Genomic structure of the cottontail rabbit (Shope) papillomavirus.";
Proc. Natl. Acad. Sci. U.S.A. 82:1580-1584(1985).
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STRAIN=WABHINGTON B;
Wu X., Brandsma J.;
Papilloma Formation by Cottontail Rabbit Papillomavirus (CRPV)
Regulres B1 and B2 Regulatory Genes in Addition to the E6 and E7
Transforming Genes.";
(2)
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01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
Papillomavirus sylvilagi Washington B (E2) and (E4) genes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Cottontail rabbit papillomavirus.
Viruses; debNA viruses, no RNA stage; Papillomaviridae;
                                                                                                                                                                                                                                          01-UNN-2002 (TrEMBLrel. 21, Created)
01-JUN-2002 (TrEMBLrel. 21, Last sequence update)
01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                        Simian-Human immunodeficiency virus.
Viruses; Retroid viruses; Retroviridae; Lentivirus.
VCBI_TaxID=57667;
                                                                                                                                                                                                   96 AA.
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STRAIN-WASHINGTON B;
MEDLINE-85166175; Pubmed=2984661;
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NCBI_TaxID=10623;
7 WTLK 10
                                          18 WTLK 21
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18 WTLK 21
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VPR.
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Q85061;
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Q8QDN8
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DR EMBL; U09496; AAB60542.2; -.
FT COMFLICT 28 28 - V -> L (IN REF. 2).
FT NON TER 99 99
SQ SEQÜENCE 99 AA; 11346 MW; CE2A896101FB0BF0 CRC64;
Query Match
Query Match
Best Local Similarity 100.0%; Pred. No. 3.7e+02;
Matches 4; Conservative 0; Mismatches 0; Indels 0; Gaps
Qy 7 WTLK 10
Db 73 WTLK 76
Search completed: January 29, 2003, 10:46:44
Job time: 22.8 secs
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January 29, 2003, 10:29:22; Search time 26.9455 Seconds (without alignments) 64.288 Million cell updates/sec
GenCore version 5.1.3
Copyright (c) 1993 - 2003 Compugen Ltd.
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                                                                                                                                                                                                                                                                                                                   908470 seqs, 133250620 residues
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Maximum Match 100%
Listing first 45 summaries
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Gapop 10.0 , Gapext 0.5
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1 XXXXXXWTLKXXX 13
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Maximum DB seq length: 200000000
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Perfect score:
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| SIDS2/gcgdata/geneseg/genesegp-embl/AA1980.DAT:*
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| SIDS2/gcgdata/geneseg/genesegp-embl/AA1981.DAT:*
| SIDS2/gcgdata/geneseg/genesegp-embl/AA1981.DAT:*
| SIDS2/gcgdata/geneseg/genesegp-embl/AA1984.DAT:*
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| SIDS2/gcgdata/geneseg/genesegp-embl/AA1980.DAT:*
| SIDS2/gcgdata/geneseg/genesegp-embl/AA1990.DAT:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

	Description	Pan DR binding nen	Hillian TSH recentor	Human TSH recentor	Pan-DR binder pent	PADRE nan-DR bind	Pan-DR binder nent	Pan DR-binding nen	Pan DR-binding nen	Padre (nan-DR hind	Padre (pan-DR bind
SUMMARIES	Ω	AAW50120	AAR73328	AAR73329	AAY79540	AAE19459	AAU09839	AAR70249	AAR70250	AAW22120	AAW22121
	08	19	16	16	21	23	23	16	16	18	18
	Query Match Length DB ID	4	80	80	11	11	11	13	13	13	13
æ	Query Match	73.5	73.5	73.5	73.5	73.5	73.5	73.5	73.5	73.5	73.5
	Score	25	25	25	25	25	25	25	25	25	25
	Result No.	1	7	m	4	Ŋ	9	7	80	σ	10

Peptides that bind to MHC molecules of all DR alleles - inhibiting or inducing MHC class II mediated activation of T cells

AAW50126 Pan DR binding	9 Promiscuous T	8 Univers	4 Pan-DR bindin	9 Pan-DR-	0 Pan-DR-	1 Pan-DR-bindin	9 Pan-DR-bindin	т	4	7 PADRE univer	6 PADRE T-	4 158P1D7 rela			7	471 Pan-DR-binding epi	8	m	0 N-teri	7	1 Amino acids 17	S SEQ ID N	9 Tetanus t	2 Tetanus to	Human APP A-bet	Ď,	1 Amyloid	6 Human cv	39 Human	42 Human	43 Human	34 Human	700 Peptide #4206	
1 AAR362		•												3 ABG34860						·		-			AAB4	AAB4	AAB4	AAU1083	1 AAU108	AAU108	•	1 AAU108	ABB36	
21																																		
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	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	3.4	35	36	37	38	39	40	41	42	43	44	45	

## ALIGNMENTS

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Pan DR binding peptide; antigen binding site; MHC molecule; DR locus.
                                                                                                                                                                                   Grey HM, Sette A, Sidney J;
RESULT 1
AAW50120
ID AAW50120 standard; peptide; 4 AA.
                                                       Pan DR binding peptide (17)
                                                                                                                                   94US-0305871.
                                                                                                                                                94US-0305871.
                                           (first entry)
                                                                                                                                                                                   Alexander JL, Gaeta F,
                                                                                                                                                                                                 WPI; 1998-239154/21.
                                                                                                                                                                     (CYTE-) CYTEL CORP.
                                                                                                                                   14-SEP-1994;
                                                                                                                                                14-SEP-1994;
14-SEP-1993;
                                           30-JUN-1998
                                                                                                       US5736142-A.
                                                                                                                     07-APR-1998.
                                                                                          Synthetic.
                             AAW50120;
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Peptides with affinity to human TSH (thyroid stimulating hormone) receptor antibody are used for detection of the antibody. (See also AAR73201-592).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Novel polypeptide(s) having affinity for the human TSH receptor antibody - used in detection of the TSH antibody.
                                                                                                                                                                                                                                                                      thyroid stimulating hormone receptor; TSH; human; Homo sapiens; antibody; affinity; detection.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match

73.5%; Score 25; DB 16; Length 8;

Best Local Similarity 100.0%; Pred. No. 7.8e+05;

Matches 4; Conservative 0; Mismatches 0; Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (MITP ) MITSUBISHI PETROCHEMICAL CO LTD.
                                                                                                                                                                                                                  Human TSH receptor (residues 257-264)
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                                                 AAR73329 standard; Peptide; 8 AA.
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                                                                                                         AAR73329;
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                                        The present sequence, a pan DR binding peptide, is capable of binding antigen binding sites on WHC molecules, which are encoded by most of the alleles of a DR locus. The peptide can be used to inhibit or induce WHC Class II mediated activation of T-cells or helper T-cells, which themselves mediate a CTL response. The peptide can be used in mamals, especially humans, to inhibit T-cell-mediated events involved in allograft rejection, allergic responses and autoimmunity and as a vaccine adjuvant for enhancing an immune response against an administered immunogen. The peptide can be used with other immunogens to treat, e.g. prostate cancer, hepatitis B, hepatitis C, AlDS, renal and cervical carcinoma,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Novel polypeptide(s) having affinity for the human TSH receptor antibody - used in detection of the TSH antibody.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 thyroid stimulating hormone receptor; TSH; human; Homo sapiens;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                            73.5%; Score 25; DB 19; Length 4; 100.0%; Pred. No. 7.8e+05; ive 0; Mismatches 0; Indels
Disclosure; Columns 37-38; 29pp; English
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAR73328 standard; Peptide; 8 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               antibody; affinity; detection.
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Best Local Similarity 100.6
Matches 4, Conservative
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WTLK 7
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Human leukocyte antigen; HLA; DR-binding peptide; therapy; stress protein; major histocompatibility complex; MHC; antiulcer; type I diabetes; scleroderms; heat shock protein; hgp; vitiligo; rheumatoid arthritis; lupus erythematosus; myasthenia gravis; tumour; polymyositis; chronic active hepatitis; primary biliary dirthosis; polymyositis; chronic active hepatitis; primary biliary dirthosis; penicious anaemia; autoimmune thyroiditis; sjogren's syndrome; cancer; Grave's disease; autoimmune disease; multiple sclerosis; hepatotropic; inflammatory bowel disease; dopasture's syndrome; neuroprotective; antimicrobial; immunosuppressive, dermatological; antiinflammatory; antiinflammatory; antiinflammatory; antiinflammatory;
                                                                                                                              New artificial antigen presenting cells useful for isolating and expanding T cells, and modulating T cell responses for the treatment of e.g. autoimmune diseases, allergies
                                                                                                                                                                                                                         This synthetic peptide, termed PADRE 965.10, is characterised as a pan-IR binder peptide. PADREs of comparable affinity were used as model antigens to identify human antigen-specific T cells in an experiment designed to dennify human antigen-specific T cells in an artificial antigen presenting cells (AFC) is effective in artificial antigen presenting cells (AFC) is effective in identifying polyclonal class II restricted human T cells. The invention is directed to artificial APC, and methods of making APC used to isolate and expand T cell populations and to modulate to used to isolate and expand and antigen-specific T cells. The identification and isolation and antigen-specific T cells. The identification and isolation and entire modulation flapsomes containing MHC:peptide complexes, accessory molecules, co-stimulatory molecules, adhesion molecules, and other molecules irrelevant to T cell binding of modulation that are used in the binding of artificial APC to solid support systems that may be used in the retival and identification and antigen-specific T cells. Devices and methods are provided for treatmental that may be used in the from modulation of T cell response, e.g. autoimmune disorders (from modulation of T cell response, e.g. autoimmune disorders (specially type I diabetes mallitus, multiple sclerosis, and arthritis, dermacomiosytis, juvenile rheumatoid arthritis, dermacomiosytis, virel infections, and arthritis, dermacomiosytis, virel infections, and arthritis, dermacomiosytis, virel infections, and
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                                                                                                                                                                                               Example 16; Page 93; 179pp; English.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAE19459 standard; peptide; 11 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PADRE, pan-DR binder peptide.
   98US-0105018.
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                                                                                                 WPI; 2000-339492/29.
                                  (ALBA/) ALBANI S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                11 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 graft rejection.
20-OCT-1998;
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more major nistocomparibility complex (mile) class in mustectures. In more major nistocomparibility complex (mile) classes. The peptides control and the immunomodulating composition comprising these confined are useful for medulating, treating or preventing an immunementated disease in a mammalian subject e.g. human, having or at risk of having a disease including autoimmune disease, multiple sclerosis (MS), remembroid archititis, lugus erythemacosus, myasthemia gravis, type I diabetes, scleroderma, ulcerative colitis, cancer (e.g. melanoma.) ymphoma, leukaemia, lung, liver kidney, brain, bladder solid tumours, retinoblastoma, sarcoma and connective tissue cancers) and infectious cliseases. The peptides of the invention are also useful for screening cliseases. The peptides of the invention are also useful for screening competides are useful for treating autoimmune response. These peptides are useful for treating autoimmune response. These including Sjogren's syndrome, polymyositis, chronic active hepatitis, anaemia, autoimmune hubyroiditis, vitiligo, idiopathic Addison's disease, connective tissue disease, primary bilary cirrhosis, pernicious connective tissue disease, primary bilary cirrhosis, pernicious connective tissue disease, primary bilary cirrhosis, pernicious connective uncommune reluctopenia, idiopathic thromobocytopaenia purpura, pemphigus vulgaris, autoimmune infertility, Goodpasture's syndrome, pemphigus vulgaris, autoimmune infertility, Goodpasture's syndrome, pemphigus vulgaris, autoimmune infertility, Goodpasture's syndrome, pemphigus and ense in PADRE, a pan-DR binder peptide used in the exemplification
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Novel human leukocyte antigen pan DR-binding peptide, useful for treating immune mediated diseases and conditions, has a fragment of stress protein that binds to major histocompatibility complex class II
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      The invention relates to human leukocyte antigen (HLA) pan DR-binding peptide comprising a fragment of a stress protein that binds to one or more major histocompatibility complex (MHC) class II molecules. The
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Antigenic, antidiabetic, neuroprotective, antirheumatic, antiarthritic, dermatological; immunosuppressive; ophthalmological; antiallergic;
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Pred. No. 66;
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/label= Unknown
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                                                                                                                                                                                                                    08-AUG-2001; 2001WO-US41656.
                                                                                                                                                                                                                                                                                        09-AUG-2000; 2000US-224104P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            73.5%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Prakken BJ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WPI; 2002-227137/28.
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Best Local Similarity
Matches 4; Conserv
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AAR70249 standard; peptide; 13 AA

AAR70249;

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The invention relates to an artificial antigen presenting cell (1) comprising liposome, major histocompatibility complex (MHC), antigen an accessory molecule components. (1) is used in methods for the components. (2) isolating T cells specific for an antigen of interest; (3) modulating T cells specific for an antigen of interest; (3) modulating T cell response; (4) characterising the functional state of antigenspecific T cells; (5) treating a condition in a subject which would be specific T cells; (5) treating a condition in a subject which would be certain antigen-specific T cells to increase T-helper (Th) 2 response and/or decrease Th1 response; (6) identifying antigen-specific T cells specific T cells to increase T-helper (Th) 2 response specific for epitopes on a graft donor's tissue likely to elicit graft versus host rejection of allografts in a transplantation therapy regime.

Method (5) is useful for treating autoimmune disease such as type I diabetes mellitus, multiple sclerosis, rheumatoid arthritis, cit is useful for treating altersy due to altergans such as dust, animal skin bypass products, vegetables, fruits, pollen or chemicals, cancer, viral infection, bacterial infection, Addition of the accessory molecules, as well as co-stimulatory molecules, and other proteins in proper orientation in the liposomes allow for the subscueding the content of the co
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       binding association and manipulation of T cells which is very important in the identification and stimulation of antigen-specific T cells. The present sequence represents Pan-DR binder peptide (PADRE) used in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            response for treating allergies and cancers, comprises liposome, major histocompatibility complex, antigen and accessory molecule components
cytostatic; virucide; antibacterial; artificial antigen presenting celliposome, major histocompatibility complex; MHC; T cell; allograft; cytokine production; T-helper 2 response; transplantation therapy; autoimmune disease; type I diabetes mellitus; multiple sclerosis; rhemmatoid arthritis; dermatomyositis; juvenile rhemmatoid arthritis; uveitis; allergy; cancer; infection; Pan-DR binder peptide; PADRE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     New artificial antigen presenting cell, useful for modulating T cell
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                                                                                                                                                                                                                                                                                              _label= OTHER
/note= "Other= cyclohexylalanine"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Example 16; Page 103; 195pp; English
                                                                                                                                                                                                                                            Location/Qualifiers
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      20-APR-2000; 2000WO-IT00161.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        20-APR-2000; 2000WO-IT00161.
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                                                                                                                                                                                                                                                                          Misc-difference
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6 WTLK
                                                                                                                                                                                              Synthetic
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Peptides capable of binding MHC class II molecules via antigen binding sites (pan DR-binding peptides) were synthesised. Peptide ARAN70249 is capbale of binding MHC class II molecules causing T cell activation. This is useful as a vaccine component and may be used in conjunction with CTL peptides to enhance a CTL response.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                            Inhibiting or inducing an immune response using Pan DR-binding peptide(s) - to prepare a compsn. used to treat allo:graft rejection, allergic response and auto:immunity and as a vaccine
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                                                                                    T cell; MHC; class II; major histocompatibility complex II; immunogen; activation.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    16; Length 13;
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                                                                                                                                                                                                                                                                                                                                                                    Sidney J;
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                                                                  Pan DR-binding peptide activator of T cells.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    73.5%; Score 25; DB ilarity 100.0%; Pred. No. 79; Conservative 0; Mismatches
                                                                                                                                                                                                        'note= "cyclohexylalanine"
                                                                                                                                                                       note= "D-form residue""
                                                                                                                                                                                                                               /note= "D-form residue"
                                                                                                                                                                                                                                                                                                                                                                    Grey HM,
                                                                                                                                               Location/Qualifiers
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Claim 3; Page 51; 59pp; English.
                                                                                                                                                                                             label= OTHER
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Matches 4; Conserv
                                                                                                                                                                                                                                                                                                                                             CORP.
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                                                                                                                                                                                   Modified-site
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   7 WTLK 10
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                                                                                                                            Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                   component
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence
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AAR70249

Synthetic

us-09-707-738-23.rag

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This PADRE (pan-DR binding) peptide is used in a composition for eliciting an immune response to a non-protein antigenic determinant. The composition comprises of the PADRE peptide covalently linked to the non-protein antigenic determinant. The composition is used to induce a conference of the padre particularly to selected the paper polysaccharide antigenic response, particularly to selected polysaccharide antigens associated with tumours or infectious agents It provides a high level, long-lasting IgG immune response. The composition provides a high level, long-lasting IgG immune response. The composition of a slave used to produce monoclonal antibodies which are potentially useful as therapeutic and diagnostic agents. The composition can be used antigenic and diagnostic subjects at risk from developing contingent celetraniant or to predict subjects at risk from developing chronic infections. PADRE peptides have broader specificity and higher affinity than known DR-binding peptides. They are powerful inhibitors of the proliferative response of human T cells restricted by at least 6 different DR molecules, and act as helper epitopes of in vivo induction contents.
                                                                                                                                                                                  Composition for eliciting immune response to non-protein determinant - comprises the determinant and a pan-DR binding peptide, used for prevention and treatment of tumours and infections
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    73.5%; Score 25; DB 18; Length 13; 100.0%; Pred. No. 79; 0; Indels ive 0; Mismatches 0; Indels
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                                                                                                              Sette A;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAW22121 standard; peptide; 13 AA
                                                                                                                                                                                                                                                           Claim 23; Page 74; 87pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Padre (pan-DR binding) peptide 6.
97WO-US01041.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                treatment; tumour; infection
                                      96US-0010510
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                                                                                                            Defrees S,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           4; Conservative
                                                                                                                                             WPI; 1997-393272/36.
                                                                         (CYTE-) CYTEL CORP.
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                                                                                                            Alexander JL,
23-JAN-1997;
                                      24-JAN-1996;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     73.5%; Score 25; DB 16; Length 13; ilarity 100.0%; Pred. No. 79; Conservative 0; Mismatches 0; Indelg
                                                                                                                                                                                                                                                                                                                                 Sidney J;
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                                                                   'note= "D-form residue""
                                                                                                      /note= "D-form residue"
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                                Location/Qualifiers
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Claim 3; Page 51; 59pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PADRE; pan-DR binding; immun
treatment; tumour; infection
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les 4; Conserv
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                                                                                   Misc-difference
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Misc-difference
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Sequence

Query Match Best Loca Matches

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component

Synthetic

AAW22120;

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Gaps

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Gaps
                                                                                                         The present sequence, a pan DR binding peptide, is capable of binding antigen binding sites on MHC molecules, which are encoded by most of the alieles of a DR locus. The peptide can be used to inhibit or induce MHC Class II mediated activation of T-cells or halper T-cells, which themselves mediate a CTL response. The peptide can be used in mammals, especially humans, to inhibit peptide can be used in mammals, especially humans, to inhibit re-cell-mediated events involved in allograft rejection, allergic responses and autoimmunity and as a vaccine adjuvant for enhancing an immune response against an administered immunogen. The peptide can be used with other immunogens to treat, e.g. prostate cancer, hepatitis B, hepatitis C, AIDS, renal and cervical carcinoma, lymphoma, CMV and condylyloma acuminatum.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Peptides that bind to MHC molecules of all DR alleles - inhibiting or inducing MHC Class II mediated activation of T cells
             Peptides that bind to MHC molecules of all DR alleles - inhibiting or inducing MHC Class II mediated activation of T cells
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        The present sequence, a pan DR binding peptide, is capable of binding antigen binding sites on MMC Molecules, which are encoded by most of the alleles of a DR locus. The peptide can be used to by most of the alleles of a DR locus. The peptide can be used to inhibit or induce MHC Class II mediated activation of T-cells or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           .,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DR binding peptide; antigen binding site; MHC molecule;
                                                                                                                                                                                                                                                                                                                                                                                                                                  DB 19; Length 13; 79;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sidney J;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sette A,
                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match 73.5%; Score 25; DB Best Local Similarity 100.0%; Pred. No. 79; Matches 4; Conservative 0; Mismatches
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                                                                                Claim 35; Columns 39-40; 29pp; English
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/label= Tyr, Phe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Pan DR binding peptide (23).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WPI; 1998-239154/21.
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                                                                                                                                                                                                                                                                                                                                                                                             Sequence 13 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Key
Misc-difference
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14-SEP-1993;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DR locus.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             This PADRE (pan-DR binding) peptide is used in a composition for eliciting an immune response to a non-protein antigenic determinant. The composition comprises of the PADRE peptide covalently linked to the composition comprises of the PADRE peptide covalently linked to the non-protein antigenic determinant. The composition is used to induce a conjugate of prophylactic response, particularly to selected polysaccharide antigens associated with tumours or infectious agents. It provides a high level, long-lasting IgG immune response. The composition is also used to produce monoclonal antibodies which are potentially useful as therapeutic and diagnostic agents. The composition can be used to diagnose susceptibility of a patient to treatment with the non-protein chiganose susceptibility of a patient to treatment with the non-protein chronic infections. PADRE peptides have broader specificity and higher affinity than known DR-binding peptides. They are powerful inhibitors of the proliferative response of human T cells restricted by at least 6 clifferent DR molecules, and act as helper epitopes of in vivo induction
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                         Composition for eliciting immune response to non-protein determinant - comprises the determinant and a pan-DR binding peptide, used for prevention and treatment of tumours and infections
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 73.5%; Score 25; DB 18; Length 13; 100.0%; Pred. No. 79; 0; Indels ive 0; Mismatches 0; Indels
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                                             Sette A;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAW50125 standard; peptide; 13 AA.
                                                                                                                                                                                                              Claim 23; Page 74; 87pp; English.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Pan DR binding peptide (22).
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                                           Alexander JL, Defrees S,
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                                                                                     WPI; 1997-393272/36.
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les 4; Conserve
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  (CYTE-) CYTEL CORP.
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Matches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Asthma; IL-5; interleukin-5; allergy; cytokine; helminthic infection; cancer; eosinophilia; vaccine; allergic rhinitis.
                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Down-regulating interleukin 5 (IL-5) activity in humans by administering IL-5 and/or an IL-5 analogue, useful in the treatment, prophylaxis or amelioration of asthma or other chronic allergic
helper T-cells, which themselves mediate a CTL response. The peptide can be used in mammals, especially humans, to inhibit T-cell-mediated events involved in allograft rejection, allergic responses and autoimmunity and as a vaccine adjuvant for enhancing an immune response against an administered immunogen. The peptide can be used with other immunogens to treat, e.g. prostate cancer, hepatitis B, hepatitis C, AlDS, renal and cervical carcinoma, Iymphoma, CMV and condylyloma acuminatum.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   The present invention is concerned with methods of treating asthma,
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                                                                                                                                                                            73.5%; Score 25; DB 19; Length 13; 100.0%; Pred. No. 79; tive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Promiscuous T helper epitope SEQ ID NO: 65.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Disclosure; Page 168; 172pp; English.
                                                                                                                                                                                                                                                                                                                                                      AAB36289 standard; Peptide; 13 AA.
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99US-0132811.
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                                                                                                                                                          Query Match
Best Local Similarity 100.v.
4; Conservative
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                                                                                                                                                 13 AA;
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7 WTLK 10
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Synthetic.
                                                                                                                                                 Sequence
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Threat transfer a fusion gene encoting a major instrocompatibility complex.

(MHC) targetting sequence, and two or more heterologous peptide epitopes. The MHC targetting sequence may be a class I targetting sequence, which directs an MHC class I epitope to a cytosolic pathway or to the endopaliasmic reticulum, or an MHC class II targetting sequence, which candoplasmic reticulum, or an MHC class II targetting sequence, which candoplasmic reticulum, antigens to enter the endocytic pathway to be processed into antigen peptides for presentation on MHC class II molecules. The heterologous epitopes may comprise either helper T molecules. The heterologous epitopes may comprise either helper T molecules. The heterologous epitopes may comprise either helper T withouters HTL epitope such as a pan DR epitope (PADRE). The vectors are universal HTL epitope such as a pan DR epitope (PADRE). The vectors are useful for stimulating an immune response in vivo, as well as for use in vivo in a non-human mammal. They provide a nucleic acid vaccine for vivo in a non-human mammal. They provide a nucleic acid vaccine for the non-human mammal. They provide a nucleic acid vaccine for vivo in a non-human mammal. They provide a nucleic acid vaccine for the nucleic manulity against infectious pathogens, such as viruses (e.g., Plasmodium falciparum, the cause of malaria) and also tumour cells and cautoimmune diseases. Universal MHC class II epitopes are advantageously combined with other MHC class I and class II epitopes to increase the provide a broader population coverage of MHC-reactive alleles.
                                                                                                                                                                                                                                                                                                                                                                                             Chimeric; Ii protein; pan DR epitope; expression vector; promoter; major histocompatibility complex; MHC; targetting; peptide; epitope; antigen; presentation; class I; cytosolic pathway; endoplasmic reticulum; class II; extracellular antigen; endocytic pathway; helper T lymphocyte; HTL; universal epitope; cytocoxic T lymphocyte; CTL; immune response; immunogenicity; assay; vaccine; immunity; infection; pathogen; virus; HIV; HBV; HCV; hepatitis B; hepatitis C; bacterium; protozoan; tumour cell; autoimmune disease; activation; antiviral; antimalarial;
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                                                                                                                                                                                                                                                                                                                           Universal helper T epitope, pan DR epitope (PADRE).
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                                                                                       AAY52558 standard; peptide; 13 AA.
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RESULT 14
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XX XX XX AAY5258
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Gaps

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73.5%; Score 25; DB 21; Length 13; 100.0%; Pred. No. 79; o; Mismatches 0; Indels

Local Similarity 100. hes 4; Conservative

Query Match Best Local S Matches

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The invention relates to a method of determining the surface density of a cell-surface molecule on a primary or artificial antigen-presenting cell surface molecule on a primary or artificial antigen-presenting cell surface area as early of the APCs. The method comprises determining the cell surface area as a measure of cell surface molecule to the APC surface area as a measure of cell surface molecule to the APC surface area as a measure of cell surface molecule to the APC surface area as a measure of cell surface molecule to the APC surface area as a measure of cell surface molecule to the APC surface area as a measure of cell surface molecule to the APC surface density of a complex of peptide and MHC (major histocompatibility complex) protein/peptide complex on an APC; identifying an agent that increases persistence of the MHC/peptide complex on an APC surface by culturing APCs in presence of test compound complex on an APC surface by culturing APCs in presence of the Compound of Deptide complex is 100 molecules/square molecules. The complex present on the surface of an APC is sufficient for therapeutic complex is so cellular vaccines or for ex vivo expansion of antigen-specific T cells for subsequent return to the patient, cancines. The complex present on the surface of an APC is sufficient for therapeutic complex present of tumours or vivo expansion of antigen-specific T cells for subsequent return to the patient, cancines. The complex present of two or so are in the surface of an APC is sufficient for therapeutic complex present or the treatment of tumours or vivo expansion of antigen-specific T cells for subsequent return to the patient, cancined the complex or also be used to identify agents that increase the production of MHC/peptide complexes on cells, (which increases the therapeutic potential of the cells) by treatment before and/or during
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Determining surface density of molecules on antigen-presenting cells, useful for quality control of cellular vaccines for treatment of tumors and infections comprises measuring density ratios -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Cellular vaccine; antigen-presenting cell; APC; cell-surface molecule density; major histocompatibility complex; MHC; antigen-specific T-cell expansion; tumour; cancer; viral infection; paresitic infection; Pan-DR binding peptide; PADRE.
                                                                                                        Gaps
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                                                         73.5%; Score 25; DB 21; Length 13; 100.0%; Pred. No. 79; 0; Indels ive 0; Mismatches 0; Indels
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                                                                                                                                                                                                                                                                                                                AAB73644 standard; peptide; 13 AA.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                  Pan-DR binding peptide, PADRE.
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                                                                                                        Conservative
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                                                                             Local Similarity
es 4; Conserv
                   13 AA;
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                                                                                                                                                                                                                                                                                                                                                                                                       11-SEP-2001
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                                                                                                                                                                                                                                                                                                                                                             AAB73644;
                      Sequence
                                                              Query Match
                                                                                                        Matches
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CC useful antigen-pulsed APC optimisation of conditions for their cr production, and control of APC quality. Sequences AAB73649 CC represent peptides used in MHC binding studies and for the generation XX XX SQ sequence 13 AA;

Query Match

Query Match

Antick 10

Query Matches 4; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

ATICK 10

Db 7 WTLK 10

Search completed: January 29, 2003, 10:44:34

Search completed: January 29, 2003, 10:44:34
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US-09-828-574-12
; Sequence 12, Application US/09828574
; Patent No. US20020146759A1
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ORGANISM: Artificial Sequence
FEATURE:
    7 WILK 10
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US-09-756-983-7
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                                                                                                                          ; Search time 5.67273 Seconds (without alignments) 46.243 Million cell updates/sec
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              GenCore version 5.1.3
Copyright (c) 1993 - 2003 Compugen Ltd.
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US-09-828-574-12

US-09-849-375A-18

US-09-849-375A-18

US-09-849-018-69

US-09-983-019-0

US-09-983-019-4

US-09-983-019-7

US-09-983-019-7

US-09-983-019-7

US-09-983-019-7

US-09-864-761-3303

US-10-016-634A-165

US-09-949-375A-12

US-09-95-300-1859
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                                                                                                                                                                                                                                                                                                                                   122226 seqs, 20178551 residues
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                                                                                                                          January 29, 2003, 10:46:52 ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Published_Applications_AA:*
                                                                                     OM protein - protein search, using sw model
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Gapop 10.0 , Gapext 0.5
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1 XXXXXXWTLKXXX 13
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Maximum DB seq length: 2000000000
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Match Length
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110.
111.
113.
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Perfect score:
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22 25 713 5 714 10 US-00-764-771-1472 Sequence 47312, Appl 22 25 713 5 714 10 US-00-764-781-1472 Sequence 670, Appl 22 25 713 5 10 US-00-924-018-97 Sequence 670, Appl 22 25 713 5 10 US-00-924-018-97 Sequence 670, Appl 22 25 713 5 10 US-00-924-018-97 Sequence 670, Appl 22 25 713 5 10 US-00-924-018-97 Sequence 670, Appl 22 25 713 5 10 US-00-924-018-97 Sequence 670, Appl 22 25 713 5 10 US-00-924-018-97 Sequence 610, Appl 23 25 713 5 10 US-00-924-018-91 Sequence 610, Appl 23 25 713 5 10 US-00-924-018-91 Sequence 610, Appl 23 25 713 5 10 US-00-924-018-91 Sequence 610, Appl 24 25 713 5 10 US-00-94-018-91 Sequence 610, Appl 24 25 713 5 10 US-00-94-018-91 Sequence 610, Appl 24 25 713 5 10 US-00-94-018-91 Sequence 610, Appl 24 25 713 5 10 US-00-94-018-91 Sequence 610, Appl 24 25 713 5 10 US-00-94-018-91 Sequence 610, Appl 24 25 713 5 10 US-00-94-018-91 Sequence 610, Appl 24 25 713 5 10 US-00-94-018-91 Sequence 610, Appl 24 25 713 5 10 US-00-94-018-91 Sequence 610, Appl 24 25 713 5 10 US-00-94-018-91 Sequence 610, Appl 24 25 713 5 10 US-00-94-018-91 Sequence 610, Appl 24 25 713 5 10 US-00-94-018-91 Sequence 610, Appl 24 25 713 5 10 US-00-94-018-91 Sequence 610, Appl 24 25 713 5 10 US-00-94-018-91 Sequence 610, Appl 24 25 713 5 10 US-00-94-018-91 Sequence 610, Appl 24 25 713 5 10 US-00-94-018-91 Sequence 610, Appl 24 25 713 5 10 US-00-94-018-91 Sequence 610, Appl 24 25 713 5 10 US-00-94-018-91 Sequence 610, Appl 24 25 713 5 10 US-00-94-018-91 Sequence 610, Appl 24 25 713 5 10 US-00-94-018-91 Sequence 610, Appl 24 25 713 5 10 US-00-94-018-91 Sequence 610, Appl 24 25 713 5 10 US-00-94-018-91 Sequence 610, Appl 24 25 713 5 10 US-00-94-018-91 Sequence 610, Appl 24 25 713 5 10 US-00-94-018-91 Sequence 610, Appl 24 25 713 5 10 US-00-94-018-91 Sequence 610, Appl 24 25 713 5 10 US-00-94-018-91 Sequence 610, Appl 24 25 713 5 10 US-00-94-018-91 Sequence 610, Appl 24 25 713 5 10 US-00-94-018-91 Sequence 610, Appl 24 25 713 5 10 US-00-94-018-91 Sequence 610, Appl 24 25 713 5 10 US-00-94-018-91 Sequence 610, Appl 24 25 713 5 10 US-00-
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Sequence 47626, Application US/09864761
Patent No. US20020048763A1
Patent No. US20020048763A1
Patent No. US20020048763A1
APPLICANT: Penn, Sharron G.
APPLICANT: Rank, David R.
APPLICANT: Hank, David R.
APPLICANT: Chen, Wensheng
TITLE OF INVENTION: HUMAN GENOME-DERIVED SINGLE EXON NUCLEIC ACID PROBES USEFUL FOR TITLE OF INVENTION: GENE EXPRESSION ANALYSIS BY MICROARRAY
TITLE OF INVENTION: GENE EXPRESSION ANALYSIS BY MICROARRAY
CURRENT APPLICATION NUMBER: US/09/864,761
                                                                                                                                                      OTHER INFORMATION: artificial T-cell epitope capable of binding to a large portion OTHER INFORMATION: of MHC Class II molecules in a variety of animals
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73.5%; Score 25; DB 10; Length 13;
Best Local Similarity 100.0%; Pred. No. 20;
Matches 4; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                             Length 13;
                                                                                                                                                                                                                                                                                                                                                               0; Indels
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APPLICANT: Sette, Alessandro
APPLICANT: Chestnut, Robert
APPLICANT: Chestnut, Robert
APPLICANT: Chestnut, Robert
APPLICANT: Lavingscon, Brian
APPLICANT: Baker, Denisw
APPLICANT: Newman, Mark
APPLICANT: Newman, Mark
APPLICANT: Brown, Davin, Barook, Davin, Barook, Davin, Barook, Davin, Barook, Davin, Brown, Davin, Mark
APPLICANT: Newman, Mark
APPLICANT: 1965-3.0033.00
CURRENT FILING DATE: 2001-12-28
PRIOR FILING DATE: 2001-12-28
PRIOR PILING DATE: 2001-10-28
PRIOR FILING DATE: 2001-04-16
NUMBER OF SEQ ID NOS: 368
NUMBER OF SEQ ID NOS: 368
AND APPLICANT: Newman Number Of Second Of Se
                                                                                                                                                                                                                                                                                      Query Match 73.5%; Score 25; DB 9; Best Local Similarity 100.0%; Pred. No. 20; Matches 4; Conservative 0; Mismatches (
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: PRT ORGANISM: Artificial Sequence
                         LENGTH: 13
TYPE: PRT
ORGANISM: Artificial Sequence
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US-09-864-761-47626
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US-09-894-018-69
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SEQ ID NO 19
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                  APPLICANT: THE REGENTS OF THE UNIVERSITY OF CALIFORNIA
APPLICANT: THE REGENTS OF THE UNIVERSITY OF CALIFORNIA
APPLICANT: ALBANI, Salvatore
APPLICANT: PRAKKEN, Berent J.
TITLE OF INVENTION: STRESS PROTEINS AND PEPTIDES AND METHODS OF USE THEREOF
FILE REFERENCE: UCSD1310-1
CURRENT APPLICATION NUMBER: US/09/828,574
CURRENT FILING DATE: 2001-04-06
PRIOR PELING DATE: 2001-04-06
PRIOR PELING DATE: 2000-08-09
NUMBER OF SEQ ID NOS: 13
SOFTWARE: PATENTIN VERSION 3.1
SEQ ID NO 12
LENGTH: 11
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15 Sequence 19, Application US/09785215
16 Publication No. US20020187157A1
17 Publication No. US20020187157A1
18 APPLICANT: JENSEN, Martin Roland et al.
17 TILE OF INVENTION: NOVEL METHOD FOR DOWN-REGULATION OF AWYLOID
17 CURRENT APPLICATION NUMBER: US/09/785,215
17 CURRENT FILING DATE: 2001-02-20
17 NUMBER OF SEQ 1D NOS: 19
18 SOFTWARE: Patentin version 3.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    73.5%; Score 25; DB 10; Length 11; 100.0%; Pred. No. 17; tive 0; Mismatches 0; Indels
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Sequence 18, Application US/09949375A

Patent No. US20020172673A1

GENERAL INFORMATION:

APLICANT: KAYSNER, Steen et al.

TILLE OF INVENTION: METHOD FOR DOWN-REGULATING IGE

FILE REFERENCE: 3631-0111P

CURRENT APPLICATION NUMBER: US/09/949,375A

CURRENT FILING DATE: 2002-01-18

NUMBER OF SEQ ID NOS: 38

SOFTWARE: PatentIn Version 3.1

SEQ ID NO 18
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100.0%; Pred. No. 20;
live 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ) OTHER INFORMATION: pan-DR binder peptide
NAME/KEY: MISC_FEATURE
| LOCATION: (2)...(2)
| OTHER INFORMATION: Xaa is any amino acid
US-09-828-574-12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TYPE: PRT
ORGANISM: Artificial Sequence
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Best Local Similarity 100.
Matches 4; Conservative
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Best Local Similarity
Matches 4; Conserva
   GENERAL INFORMATION:
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APPLICANT: Penn, Sharron G.
APPLICANT: Penn, Sharron G.
APPLICANT: Penn, Sharron G.
APPLICANT: Hard, David R.
TITLE OF INVENTION: HURAN GENOME-DERIVED SINGLE EXON NUCLEIC ACID PROBES USEPUL, FOR TITLE OF INVENTION: CHEEK EXPRESSION ANALYSIS BY MICROARRAY
FILE OF INVENTION: HURAN GENOME, US 09/84,761
CURRENT APPLICATION NUMBER: US 60/180,312
PRIOR PELING DATE: 2000-02-04
PRIOR PLING DATE: 2000-03-04
PRIOR PLING DATE: 2000-03-03
PRIOR PLING DATE: 2000-03-04
PRIOR PLING DATE: 2000-03-04
PRIOR PLING DATE: 2000-03-07
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    i. LOCATION: (3)...(3)
    i. O'THER INFORMATION: X = cyclohexylalanine or phenylalanine
US-09-983-019-0.

                                                                                                                                                                                                                                                      NAME/KEY: misc_feature
LOCATION: ()...()
OTHER WIPORMATION: Human cytomegalovirus vaccine peptice
LOCATION: (3)...(3)
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Patent No. US20020048763A1
GENERAL INFORMATION:
                                                                                                                                 TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
                                 SOFTWARE: Patentin version 3.0
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                                                                           SEQ ID NO 10
LENGTH: 24
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Patent No. US20020146820A1
GENERAL INFORMATION:
APPLICANT: Diamond, Don J.
TITLE OF INVENTION: IMMUNOREACTIVE PEPTIDE CTL EPITOPES OF HUMAN CYTOMEGALOVIRUS PP15
CURRENT APPLICATION WUMBER: US/09/983,019
CURRENT APPLICATION NUMBER: US/09/983,019
PRIOR APPLICATION NUMBER: US/09/983,019
PRIOR PELING DATE: 2001-10-22
PRIOR FILING DATE: 2000-10-20
NUMBER OF SEQ ID NOS: 14
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OTHER INFORMATION: EXPRESSED IN HELA, SIGNAL = 0.94
OTHER INFORMATION: EXPRESSED IN FETAL LIVER, SIGNAL = 0.96
OTHER INFORMATION: EST HUMAN HIT: AI033706.1, EVALUE 1.00e-08
OTHER INFORMATION: SWISSPROT HIT: Q84291, EVALUE 4.90e+00
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        CURRENT FILING DATE: 2001-05-23
PRIOR APPLICATION NUMBER: US 60/180,312
PRIOR PLING DATE: 2000-02-04
PRIOR PLING DATE: 2000-05-26
PRIOR PLING DATE: 2000-05-26
PRIOR PLING DATE: 2000-06-03
PRIOR PLING DATE: 2000-06-03
PRIOR FILING DATE: 2000-09-27
PRIOR PLING DATE: 2000-09-27
PRIOR PLING DATE: 2000-10-04
PRIOR FILING DATE: 2000-10-04
PRIOR FILING DATE: 2001-10-30
PRIOR PLING DATE: 2001-10-30
PRIOR PLING DATE: 2001-10-30
PRIOR PLING DATE: 2001-01-30
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CURRENT
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US-09-864-761-39731, Application US/09864761

Sequence 39731, Application US/09864761

APPLICANT: Rank, David R.

APPLICANT: Rank, David R.

APPLICANT: Chen, Wensheng

TITLE OF INVENTIOR: HUMBER: US/09/664,761

CURRENT FILING DATE: 2001-05-23

CURRENT FILING DATE: 2001-05-23

ERIOR APPLICATION NUMBER: US/09/664,761

PRIOR APPLICATION NUMBER: US/09/632,366

PRIOR APPLICATION NUMBER: US/09/632,366

PRIOR APPLICATION NUMBER: US/09/632,366

PRIOR PAPING DATE: 2000-10-40

PRIOR PAPING DATE: 2000-10-40

PRIOR PAPING DATE: 2001-01-30

PRIOR PRIOR PAPING NUMBER: PCT/US01/00669

PRIOR PAPING DATE: 2001-01-30

PRIOR PAPING DATE: 2001-01-30

PRIOR PAPING DATE: 2001-01-30

PRIOR PAPING DATE: 2001-01-30

PRIOR PRIOR PAPING NUMBER: PCT/US01/00669

PRIOR PRIOR PAPING NUMBER: PCT/US01/00669

PRIOR PRIOR DATE: 2001-01-30

PRIOR PRIOR DATE: 2001-01-30

PRIOR PRIOR PRIING DATE: 2001-01-30

PRIOR PRIING DATE: 2001-01-
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                                                                                                                                                                                                                                                                                                                                                                                         DOTHER INFORMATION: U.M. Human cytomegalovirus vaccine peptide NAME/KEY: VARIANT
LOCATION: (17) . (17) . (17) . OTHER INFORMATION: X = cyclohexylalanine or phenylalanine
CURRENT APPLICATION NUMBER: US/09/983,019
CURRENT FILING DATE: 2001-10-22
PRIOR APPLICATION NUMBER: US 60/241,944
PRIOR FILING DATE: 2000-10-20
                                                                                                                              NUMBER OF SEQ ID NOS: 14
SOFTWARE: PatentIn version 3.0
SEQ ID NO 7
                                                                                                                                                                                                                                                       TYPE: PRT
ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                          NAME/KEY: misc feature LOCATION: ()..()
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US-09-864-761-39731
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                                                                                                                                                                                                                         LENGTH: 27
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; Patent No. US20020146820A1
; GENERALI INFORMATION:
; APPLICANT: Diamond, Don J.
; TITLE OF INVENTION: IMMUNOREACTIVE PEPTIDE CTL EPITOPES OF HUMAN CYTOMEGALOVIRUS PP15
; FILE REFERENCE: 1954-347US
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ADPLICAMY: Diamond, Don J.

TITLE OF INVENTION: IMMUNOREACTIVE PEPTIDE CTL EPITOPES OF HUMAN CYTOMEGALOVIRUS PP15
FILE REFERENCE: 1954-3470S
CURRENT APPLICATION NUMBER: US/09/983,019
CURRENT FILING DATE: 2001-10-22
PRIOR APPLICATION NUMBER: US 60/241,944
PRIOR APPLICATION NUMBER: US 60/241,944
SURENT FILING DATE: 2000-10-20
NUMBER OF SEQ 1D NOS: 14
SOFTWARE: Patentin version 3.0
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               73.5%; Score 25; DB 10; Length 27; 100.0%; Pred. No. 40; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                         OTHER INFORMATION: MAP TO AC025746.2
OTHER INFORMATION: EXPRESSED IN ADDIT LIVER, SIGNAL = 1.2
OTHER INFORMATION: EXPRESSED IN PLACENTA, SIGNAL = 1.7
OTHER INFORMATION: EXPRESSED IN PLACENTA, SIGNAL = 1.6
OTHER INFORMATION: EXPRESSED IN PETAL LIVER, SIGNAL = 1.5
OTHER INFORMATION: EXPRESSED IN BRAIN, SIGNAL = 1.5
OTHER INFORMATION: EXPRESSED IN BRAIN, SIGNAL = 1.4
OTHER INFORMATION: EXPRESSED IN BONE MARROW, SIGNAL = 1.5
USC-09-864-761-40242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NAME/KEY: misc_feature
LOCATION: ()...()
OTHER INFORMATION: Human cytomegalovirus vaccine peptide
NAME/KEY: VARIANT
LOCATION: (6)..(6)
OTHER INFORMATION: X = cyclohexylalanine or phenylalanine
          NUMBER OF SEQ ID NOS: 49117
SOFTWARE: Annomax Sequence Listing Engine vers. 1.1
SEQ ID NO 40242
LENGTH: 27
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OTHER INFORMATION: di-palmitic acid
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Patent No. US20020146820A1
GENERAL INFORMATION:
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Best Local Similarity 100.
Matches 4; Conservative
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                                                                                                                                            TYPE: PRT
ORGANISM: Homo sapiens
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Best Local Similarity
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US-09-983-019-7
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                                                                                                                                                                                                        FEATURE:
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OTHER INFORMATION: MAP TO AC022216.3
OTHER INFORMATION: EXPRESSED IN PLACENTA, SIGNAL = 0.76
OTHER INFORMATION: EXPRESSED IN PLACENTA, SIGNAL = 0.65
OTHER INFORMATION: EXPRESSED IN PETAL LIVER, SIGNAL = 0.64
OTHER INFORMATION: EXPRESSED IN BRAIN, SIGNAL = 0.69
OTHER INFORMATION: EXPRESSED IN BRAIN, SIGNAL = 0.69
OTHER INFORMATION: EXPRESSED IN BONE MARROW, SIGNAL = 0.71
OTHER INFORMATION: SWISSPROT HIT: Q9ZER9, EVALUE 1.20e+00
US-09-864-761-45303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        73.5%; Score 25; DB 10; Length 48; 100.0%; Pred. No. 68; vative 0; Mismatches 0; Indels
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                  PRIOR FILING DATE: 2001-01-30
PRIOR APPLICATION WUMBER: PCT/USO1/00670
PRIOR APPLICATION WUMBER: PCT/USO1/00670
PRIOR PLING DATE: 2001-09-21
PRIOR FILING DATE: 2000-09-21
PRIOR FILING DATE: 2000-06-30
PRIOR PLING DATE: 2000-06-30
PRIOR PLING DATE: 2001-09-30
PRIOR PLING DATE: 2001-01-29
NUMBER OF SEQ ID NOS: 49117
SEQ ID NOS: 49117
SEQ ID NO 45303
LIBRGTH: 48
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Sequence 12, Application US/09949375A

Fatent No. US20020172673A1

GENERAL INFORMATION:

APPLICANT: KLYSUER, Steen et al.

TITLE OF INVENTION: METHOD FOR DOWN-REGULATING IGE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 165, Application US/10016634A Publication No. US20020192666A1 GENERAL INFORMATION:
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Best Local Similarity 100.
Matches 4; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                            ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TYPE: PRT
ORGANISM: Homo sapiens
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Best Local Similarity
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US-10-016-634A-165
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FRATURE:

OTHER INFORMATION: MAP TO AC003681.1

OTHER INFORMATION: EXPRESSED IN LUNG, SIGNAL = 2.5

OTHER INFORMATION: EXPRESSED IN PETAL LUNES, SIGNAL = 2.6

OTHER INFORMATION: EXPRESSED IN PLACENTA, SIGNAL = 2.6

OTHER INFORMATION: EXPRESSED IN PLACENTA, SIGNAL = 2.6

OTHER INFORMATION: EXPRESSED IN PLACENTA, SIGNAL = 3.6

OTHER INFORMATION: EXPRESSED IN BRAIN, SIGNAL = 3.1

OTHER INFORMATION: EXPRESSED IN ADULT LIVER, SIGNAL = 3.1

OTHER INFORMATION: EXPRESSED IN HEART, SIGNAL = 3.1

US-09-864-761-39731
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   73.5%; Score 25; DB 10; Length 28; 100.0%; Pred. No. 41; Live 0; Mismatches 0; Indels
PRIOR FILING DATE: 2000-09-21
PRIOR APPLICATION NUMBER: US 09/608,408
PRIOR PILING DATE: 2000-06-30
PRIOR APPLICATION NUMBER: US 09/774,203
PRIOR APPLIANG DATE: 2001-01-29
NUMBER OF SEQ ID NOS: 49117
SOFTWARE: Annomax Sequence Listing Engine vers: 1.1
SEQ ID NO 39731
LENGTH: 28
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Best Local Similarity 100...
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US-09-864-761-45303
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TYPE: PRT
ORACHIGM: Homo sapiens
ORACHIGM: Homo sapiens
FEATURE:
OTHER INFORMATION: MAP TO ACO10582.6
OTHER INFORMATION: EXPRESSED IN BRAIN, SIGNAL = 4.9
OTHER INFORMATION: EXPRESSED IN BOME MARROW, SIGNAL = 4.7
OTHER INFORMATION: EXPRESSED IN LUNG, SIGNAL = 2.7
OTHER INFORMATION: EXPRESSED IN LUNG, SIGNAL = 2.7
OTHER INFORMATION: EXPRESSED IN LUNG, SIGNAL = 2.7
OTHER INFORMATION: EXPRESSED IN HEART, SIGNAL = 6.1
OTHER INFORMATION: EXPRESSED IN HEART, SIGNAL = 7
OTHER INFORMATION: EXPRESSED IN HEART, SIGNAL = 7
OTHER INFORMATION: EXPRESSED IN HEART, SIGNAL = 7
OTHER INFORMATION: SYPRESSED IN HEART, SIGNAL = 5.9
OTHER INFORMATION: SWISSPROT HIT: P16473, EVALUE 3.00e-18
US-09-864-761-41804
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          73.5%; Score 25; DB 10; Length 56; 100.0%; Pred. No. 78; ative 0; Mismatches 0; Indels
SOFTWARE: Annomax Sequence Listing Engine vers. 1.1 SEQ ID NO 41804
LENGTH: 56
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Search completed: January 29, 2003, 10:59:00 Job time : 5.67273 secs
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Best Local Similarity 100.
Matches 4; Conservative
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Sequence 41804, Application US/09864761
Patent No. US20020048763A1
GENERAL INFORMATION:
APPLICANT: Penn, Sharron G.
APPLICANT: Rank, David K.
APPLICANT: Hanzel, David K.
APPLICANT: Chen, Wensheng
TITLE OF INVENTION: GENE EXPRESSION ANALYSIS BY MICROARRAY
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US-09-949-375A-12
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match 73.5%; Score 25; DB 9; Length 55; Best Local Similarity 100.0%; Pred. No. 77; Matches 4; Conservative 0; Mismatches 0; Indels
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   FILE REFERENCE: 3631-0111P
CURRENT APPLICATION NUMBER: US/09/949,375A
CURRENT FILING DATE: 2002-01-18
NUMBER OF SEQ ID NOS: 38
SOFTWARE: PATENTIN Version 3.1
SEQ ID 0.12
LENGTH: 55
                                                                                                                                                                                                                                                                           TYPE: PRT ORGANISM: Artificial Seguence
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0988a7 Trizobium 1 09768 clostridium 0938a8 staphylococ 064107 bacteriopha 084101 bacteriopha 08xig7 clostridium 09acr1 streptomyce 09arn streptomyce 0951w6 macaca fasc 0951w6 macaca fasc 0968y2 mus musculu 09m673 cucumis mel 09me6 leishmania el 08xp60 clostridium 091x4 homo sapien 094dp9 oryza sativ

Q97ye2 sulfolous Q97ye2 sulfolous Q97tx2 sulfolous Q91re2 commonst t O11842 abutilon mo O56249 tobacco rat Q9751 acropyrum p P91046 caenorhabdi Q01418 saccharomyc

Q9fnq9 arabidopsis Q99x02 staphylococ P71158 bacteroides Q9kx75 staphylococ

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Length 46;

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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    n 71.4%; Score 25; DB 11; Length 46 Similarity 10.0%; Pred. No. 1.7.4-02; Similarity 0.0%; Pred. No. 1.7.4-02; A. Conservative 0; Mismarches 0; Indels
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Submitted (JAN-2001) to the EMBL/GenBank/DDBJ databases.
Bubmitted (JAN-2001) to the EMBL/GenBank/DDBJ databases.
BMSL; MC002300; AAH02300.1; -.
MGD, MGIB49; 4921519L13Rik.
Hypothetical protein.
SEQUENCE 46 AA; 5337 MW; 704F20C15D045368 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               01-JUN-2001 (TrEMBLrel. 17, Created)
01-JUN-2001 (TrEMBLrel. 17, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
Hypothetical 5.3 kDa protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          01-WAR-2002 (TrEMBLrel. 20, Created)
01-WAR-2002 (TrEMBLrel. 20, Last sequence update)
01-WAR-2002 (TrEMBLrel. 20, Last annotation update)
Hypothetical protein W11746.1.
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Q988A7
Q978BA7
Q918A8
Q918A8
Q910CR1
Q970CR1
Q970CR2
Q9
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 Mus musculus (Mouse)
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Best Local Similarity
Matches 4; Conserv
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  37 WTLK
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Q8Vjy9 mycobacteri
Q8Vuw6 staphylococ
Q9Mx5 homo sapien
Q8Vw28 anabaena sp
Q9W28 anabaena sp
Q9B260 gadus morhu
Q9B260 gadus morhu
Q9A233 oryza sativ
Q9A733 oryza sativ
Q9hvy7 homo sapien
Q5664 garlic late
Q5664 garlic late
Q5601 cottontail
Q8501 cottontail
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128.779 Million cell updates/sec
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                                                                                      January 29, 2003, 10:40:47; Search time 22.4 Seconds
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           GenCore version 5.1.3
Copyright (c) 1993 - 2003 Compugen Ltd.
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Maximum Match 100%
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Q96C09
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Q8YWZ8
O98260
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Q8VJY9
Q8VAH9
Q9W7K4
Q8VUW6
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Q9AR33
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Gapop 10.0 , Gapext 0.5
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sp_invertebrate:*
sp_mammal:*
sp_mhc:*
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sp_virus:*
sp_vertebrate:*
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sp_bacteria:*
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sp_phage:*
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SEQUENCE FROM N.A.

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MEDINE=2136406; PubMed=11504859;

MEDINE=2136406; PubMed=11504859;

Takacs Z., Wilhelmsen K.C., Sorota S.;

Nicotinic Acetylcholine Receptor Is Conserved.";

Mol. Biol. Bvol. 18:1800-1809 (2001).

InterPro: IRRO0156; Lipocln.cytPABP.

InterPro: IRRO0155, Neur Channel.

Pfam: PF0291; Neur Chan LED: 1.

PROSITE; PS00213; LIPOCALIN; UNKNOWN_1.
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Lepidosauria; Squamata; Scleroglossa; Serpentes; Colubroidea;
Elapidae; Elapinae; Naja.
NCBI_TaxID=8639;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-NOV-1999 (TrEMBLrel. 12, Created)
01-NOV-1999 (TrEMBLrel. 12, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
Muscle nicotinic acetylcholine receptor alpha-subunit (Fragment)
ACHR-ALPHA.
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Bacteria; Firmicutes; Bacillus/Clostridium group; Bacillales;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   71.4%; Score 25; DB 13; Length 64; 100.0%; Pred. No. 2.4e+02; tive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                  71.4%; Score 25; DB 12; Length 60; 100.0%; Pred. No. 2.38+02; ive 0; Mismatches 0; Indels
                                                        Lo C.-F., Kou G.-H.;
Submitted (OCT-2001) to the EMBL/GenBank/DDBJ databases.
EMBL; AR332093, AAL33437.1; -.
EMBL; AF440570; AAL89362.1; -.
                                                                                                                                                                             7091 MW; 4B4D84190256B053 CRC64;
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01-MAR.2002 (TrEMBLrel. 20, Last sequence update)
01-MAR.2002 (TrEMBLrel. 20, Last annotation update)
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SEQUENCE FROM N.A. STRAIN=TAIWAN;
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NCBI_TaxID=1290;
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                                                                                                                                                                                                    STRAIN-CDC 1551 / OSHKOSH; Fleen J.A., Carpenter L., White O., Fleischmann R.D., Alland D., Eisen J.A., Carpenter L., White O., Fleischmann R.D., Alland D., Eisen J.A., Haft D., Hickey B., Kolonay J.F., Nelson W.C., Umayam L.A., Ermolaeva M.D., Salzberg S.L., Delcher A., Utterback T., Weidman J., Khouri H., Gill J., Mikula A., Bishai W.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STRAIN=TAIWAN;
MEDINEA-2184-071; PubMed=11853398;
Chan L.L., Leu J.H., Huang C.J., Chou C.M., Chen S.M., Wang C.H.,
Lo C.F.; Kou G.H.;
"Identification of a nucleocapsid protein (VP35) gene of shrimp white
spot syndrome virus and characterization of the motif important for
targeting VP35 to the nuclei of transfected insect cells.";
Virology 293:44-53(2002).
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MEDLINE-20517548; PubMed-11062040;
MEDLINE-20517548; PubMed-11062040;
MEDLINE-20517548; PubMed-11062040;
Wang C.H., Yu H.T., Tzeng H.F., Lu C.F.;
Tidentification and characterization of a shrimp white spot syndrome virus (WSSV) gene that encodes a novel chimeric polypeptide of cellular-type thymidine kinase and thymidylate kinase.";
Virology 277:100-110(2000).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                 Mycobacterium tuberculosis.
Bacteria, Firmicutes, Actinobacteria, Actinobacteridae,
Actinomycetales, Corpuebacterinae, Mycobacteriacae, Mycobacterium.
                                                                                                                                                                                                                                                                                                                                                                                           "Whole genome comparison of Mycobacterium tuberculosis clinical and laboratory strains."; Submitted (APR-2001) to the EMBL/GenBank/DDBJ databases. EMBL, AE007036; AAK46016.1; -
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BEDLINE-21548311; PubMed=11689662;

Yang F., He J., Lin X., Li Q., Pan D., Zhang X., Xu X.;

"Complete genome sequence of the shrimp white spot bacilliform
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 / March 71.4%; Score 25; DB 16; Length 54; Local Similarity 100.0%; Pred. No. 2e+02; hes 4; Conservative 0; Mismatches 0; Indels
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Yang F., He J., Lin X., Li Q., Pan D., Zhang X., Xu X.;
Submitted (DEC-2000) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Hypothetical protein.
SEQUENCE 54 AA; 5927 MW; 22E554F875A81BAF CRC64;
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01-WAR-2002 (TrEMBLrel. 20, Last sequence update)
01-UMN-2002 (TrEMBLrel. 21, Last annotation update)
WEV435 (WSSV494)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 J. Virol. 75:11811-11820(2001).
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                                                                                                                           NCBI_TaxID=1773;
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Matches
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Q8VAH9
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MEDLINE=20009526; PubMed=10541806; PubFishorem L.; Acr., Ster R.-J., Pilstroem L.; Acristration of MHC class I and beta2-microglobulin sequences in Atlantic cod reveals an unusaully high number of expressed class I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
STRALN-ELORIDAD-1997;
MEDLINE=21488685; PubMed=11602755;
Afonso C.L., Tulman E.R., Lu Z., Balinsky C.A., Moser B.A.,
Afonso C.L., Tulman E.R., Lu Z., Balinsky C.A., Moser B.A.,
MEDGOME J.J., ROCK D.L., Kutish G.F.,
"Genome Sequence of a Beculovirus Pathogenic for Culex nigripalpus.";
J. Virol. 75:11157-11165 (2001).
                                                                                                                                                                                                                     Gaps
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Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Actinopterygii, Neopterygii, Teleostei, Euteleostei, Neoteleostei,
Acanthomorpha, Paracanthopterygii, Gadiformes, Gadidae; Gadus.
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                                                                                                                              71.4%; Score 25; DB 16; Length 70; 100.0%; Pred. No. 2.6e+02; tive 0; Mismatches 0; Indels
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                 Hypothetical protein, Complete proteome. SEQUENCE 70 AA; 8009 MW; 764CESF9AC236DDA CRC64;
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01-MAY-1999 (TYEMBLrel. 10, Last sequence update)
01-UTN-2002 (TYEMBLrel. 21, Last annotation update)
MHC Class I antigen (Fragment).
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01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
CUN094 hypothetical protein.
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EMBL; AJ133450; CAB38040.1; -.
InterPro; IPR001039; MHC I.
ProDom; PD000050; MHC I: 1.
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                                                                                                                              Query Match 71.4
Best Local Similarity 100.
Matches 4; Conservative
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Katayama Y., Ito T., Hiramatsu K.;
"Localization of staphylococcal cassette chromosome in methicillin susceptible Staphylococci.";
Submitted (JUN-2001) to the EMBL/GenBank/DDBJ databases.
EMBL; AB063171; BAB83492.1;
SEQUENCE 68 AA; 7842 MW; 57892E6E550470DC CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ol-MAR-2001 (TrEMBLrel. 16, Created)
01-MAR-2001 (TrEMBLrel. 16, Last sequence update)
01-MAR-2001 (TrEMBLrel. 17, Last annotation update)
BA16L21.1.3 (NADP-dependent leukotriene B4 12-hydroxydehydrogenase
(isoform 3)).
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MEDLINE=21595285; PubMed=11759840;
A Kaneko T., Nakamura Y., Wolk C.P., Kuritz T., Sasamoto S.,
A Watanabe A., Iriguchi M., Ishikawa A., Kawashima K., Kimura T.,
A Nakazaki N., Shimpo S., Sugimoto M., Matsuno A., Muraki A.,
A Nakazaki N., Shimpo S., Sugimoto M., Takazawa M., Yamada M.,
A Yaquda M., Tabata S.,
Complete genomic sequence of the filamentous nitrogen-fixing ryanobacterium Anabaena sp. strain PCC 7120.",
DNA Res. 8:205-213(201).
E EMBL; AP003585; BAB73378.1; -
E EMBL; AP003585; HTH 3.
R Pfam, PP01181; HTH 3.
R Pfam, PP01181; HTH 3.
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Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
Mammalia; Butheria; Primates; Catarrhini; Hominidae; Homo.
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Bacteria; Cyanobacteria; Nostocales; Nostocaceae; Nostoc.
NCBI_TaxID=103690;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Laird G.;
Submitted (DEC-2000) to the EMBL/GenBank/DDBJ databases.
EMBL, ALI35787; CAC22152.1; -
SEQUENCE 70 AA; 7983 MW; E77FF1214CF13142 CRC64;
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01-MAR-2002 (TrEMBLrel. 20, Last sequence update)
01-UIN-2002 (TrEMBLrel. 21, Last annotation update)
Hypothetical protein Asil421.
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7 WTLK 10
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SEQUENCE FROM N.A.

MEDIINE-20138596; PubMed=10881687;
Yamada T., Iwamoto A.;
Yamada T., Iwamoto A.;
"Comparison of provital accessory genes between long-term
nonprogressors and progressors of human immunodeficiency virus type 1
nonprogressors and progressors of human immunodeficiency virus type 1
Arch. Virol. 145:1021-1027(2000).

EMBL, AB034523; BAA93970.1; -
PITGETPO: IPR000012; Retrov_VpR/X.

PERML, PR00522; VPR, 1.

PRINTS; PR00444; HIVVPRVPX.
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01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
0RP2 protein.
0RP2 protein.
GARIC latent virus E29-6
Viruses; ssRNA positive-strand viruses, no DNA stage; Carlavirus.
NCBI_TaxID=143616;
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71.4%; Score 25; DB 15; Length 96;
Best Local Similarity 100.0%; Pred. No. 3.6e+02;
Matches 4; Conservative 0; Mismatches 0; Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Choi J.N., Choi Y.H., Choi Y.D., Lee J.S.;
Choi J.N., Choi Y.H., Choi Y.D., Lee J.S.;
"Nucleotide sequence of a cDNA for garlic mosaic virus.";
submitred (JUN-1992) to the EMBL/GenBank/DDBJ databases.
EMBL; X67134; CAA47614.1; -.
SEQUENCE 96 AA; 10771 MW; A48BD84E2F7CF25A CRC64;
                                                                                                               71.4%; Score 25; DB 4; Length 94; 100.0%; Pred. No. 3.5e+02;
Clark G.;
Submitted (FEB-2001) to the EMBL/GenBank/DDBJ databases.
EMBL; ALIO9806; CAC03742.1; -.
SEQUENCE 94 AA; 11060 WW; E0AB7D817888A06C CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE 96 AA; 11517 MW; 0C3C8C3A34FC8800 CRC64;
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01-0CT-2000 (TrEMBLrel. 15, Last sequence update)
01-UNN-2002 (TrEMBLrel. 21, Last annotation update)
Wpr protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Human immunodeficiency virus type 1.
Viruses, Retroid viruses, Retroviridae, Lentivirus.
VCBI_TaxID=11676;
                                                                                                                              100.08; Pred. 110.08:
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Best Local Similarity 100.0
Matches 4; Conservative
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Bukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Spermatophyta; Magnollophyta; Lillopsida; Poales; Poaceae; Brhartoideae; Oryzeae; Oryza.

NCBI_TaxID=4530;
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammália; Eutheria; Primates; Catarrhini; Hominidae; Homo.
NCBI_TaxID=9606;
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STRAIN=CV. NIPPONBARE;
Sasaki T., Matsumoto T., Yamamoto K.;
Gorza sativa nipponbare(GA3) genomic DNA, chromosome 1, PAC clone:P0554D10.";
Submitted (SFP-2000) to the EMBL/GenBank/DDBJ databases.
EMBL; AP002971: BAB3927.1; -.
EMBL; AP0020869; BAB39218.1; -.
SEQUENCE 92 AA; 10627 MW; 30D6BD50E14804DD CRC64;
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STRAIN=CV. NIPPONBARE;
Sasaki, T., Matsumoto T., Yamamoto K.;
"Orya sativa nipponbare(GA3) genomic DNA, chromosome 1, PAC clone:P0537A05.";
                       Afonso C.L., Tulman B.R., Lu Z., Balinsky C.A., Moser B.A., Becnel J.J., Rock D.L., Kutish G.F.; Submitted (JUL-2001) to the EMBL/GenBank/DDBJ databases. EMBL; AF403739; AR494772.1; --
Hypothetical protein.
SEQUENCE 89 AA; 10561 MW; 01F0A22D2C792541 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match 71.4%; Score 25; DB 10; Length 92; Best Local Similarity 100.0%; Pred. No. 3.4e+02; Matches 4; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                              Length 89;
                                                                                                                                                                                         Query Match
71.4%; Score 25; DB 12; Length 89
Best Local Similarity 100.0%; Pred. No. 3.3e+02;
Matches 4; Conservative 0; Mismatches 0; Indels
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01-MAR-2001 (TrEMBLrel. 16, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
DJ1153D9.3 (novel protein).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      01-UUN-2001 (TrEMBLrel. 17, Created)
01-UUN-2001 (TrEMBLrel. 17, Last sequence update)
01-UUN-2001 (TrEMBLrel. 17, Last annotation update)
P0537A05.26 protein (P0554D10.2 protein).
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       STRAIN-FLORIDA1997;
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SEQUENCE FROM N.A.
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24 WTLK 27
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MEDLINE=21851104; PubMed=11861859;

REDLINE=21851104, Martin M.A., Song M., Sheppard L., Patten P.A., Stemmer W.P.C., Martin M.A., Song N.-W.;

"Evolution of a human immunodeficiency virus type 1 variant with enhanced replication in pig-tailed macaque cells by DNA shuffling.";
J. Virol. 76:2924-2935(2002).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Giri I., Danos O., Yaniv M.;
"Genomic structure of the cottontail rabbit (Shope) papillomavirus.";
Proc. Natl. Acad. Sci. U.S.A. 82:1580-1584 (1985).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STRAIN=1B3;
Pekrun K., Shibata R., Igarashi T., Reed M., Sheppard L., Patten P.A.
Stemmer W.P.C., Martin M.A., Soong N.-W.;
Submitted (JAN-2002) to the EMBL/GenBank/DDBJ databases.
EMBL; AF465242; AAL78992.1;
SEQUENCE 96 AA; 11451 MW; E41BB11BF86CDDGE CRC64;
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Wu X., Paradisma D.,
Wu X., Papilloma D.,
Wu X., Papilloma D.,
Wu X., Papilloma Pormation by Cottontail Rabbit Papillomavirus (CRPV)
Requires El and E2 Regulatory Genes in Addition to the E6 and E7
Transforming Genes.";
Virol. 0:0-0(1994).
[2]
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01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
01-NOV-010 (TrEMBLrel. 19, Last annotation update)
Papillomavirus sylvilagi Washington B (E2) and (E4) genes
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Viruses; dsDNA viruses, no RNA stage; Papillomaviridae;
Papillomavirus.
NCBI_TaxID=10623;
                                                                                                                                                                                                                                            Q@QDNB;
01-JUN-2002 (TrEMBLrel. 21, Created)
01-JUN-2002 (TrEMBLrel. 21, Last sequence update)
01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                     Simian-Human immunodeficiency virus.
Viruses; Retroid viruses; Retroviridae; Lentivirus.
NCBL_TaxID=57667;
                                                                                                                                                                                                                  96 AA.
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STRAIN=WASHINGTON B;
MEDLINE=85166175; PubMed=2984661;
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STRAIN=WASHINGTON B;
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SEQUENCE FROM N.A.
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7 WTLK 10
                                            18 WTLK 21
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0800M8
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AC 080DM
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DT 01-JUD
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DR EMBL; U09496; AAB60542.2; -
FT CONFLICT 28 28 V -> L (IN REF. 2).
FT NON TER 99 99
SQ SEQÜENCE 99 AA; 11346 MW; CE2A896101FB0BF0 CRC64;
Query Match
Best Local Similarity 100.0%; Pred. No. 3.7e+02;
Matches 4; Conservative 0; Mismatches 0; Indels 0; Gaps
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Db 73 WTLK 76
Db 73 WTLK 76
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TOPOLOGY: linear
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Sequence 17, Appl Sequence 21, Appl Sequence 22, Appl Sequence 23, Appl Sequence 26, Appl Sequence 27, Appl Sequence 17, Appl Sequence 17, Appl Sequence 15, Appl Sequence 16, Appl Sequence 16, Appl Sequence 16, Appl Sequence 85, Appl Sequence 7, Appl Sequence 8, Appl Seque
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1. /cgn2_6/pcodata/1/iaa/5A_COMB.pep:*
2. /cgn2_6/pcodata/1/iaa/6A_COMB.pep:*
3. /cgn2_6/pcodata/1/iaa/6A_COMB.pep:*
3. /cgn2_6/pcodata/1/iaa/pcTUS_COMB.pep:*
3. /cgn2_6/pcodata/1/iaa/pcTUS_COMB.pep:*
3. /cgn2_6/pcodata/1/iaa/pcTUS_COMB.pep:*
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Copyright (c) 1993 - 2003 Compugen Ltd.
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US-08-788-822A-36

US-08-788-822A-36

US-08-78-823-36

US-08-75-257A-15

US-09-575-257A-15

US-09-575-257A-15

US-09-534-639-15

US-09-534-639-16

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US-09-634-639-16

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US-09-634-639-16

US-08-638-639-16

US-08-639-636-700R-85

US-08-858-858-707A-7

US-08-875-875-7

US-08-875-875-7

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US-08-878-621B-7

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Listing first 45 summaries
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Sequence 22, Application US/08305871A

Sequence 22, Application US/08305871A

Patent No. 5736142

GENERAL INFORMATION:
APPLICANT: Gaeta, Federico
APPLICANT: Gaeta, Federico
APPLICANT: Gaeta, Howard M.
APPLICANT: Sidney, John
APPLICANT: Sidney, John
APPLICANT: Sidney, John
APPLICANT: Sidney, John
APPLICANT: Bidney, John
APPLICANT: Bidney, John
APPLICANT: Dinvertion: DR-Binding Peptides
ITILE OF INVENTION: DR-Binding Peptides
NUMBER OF SEQUENCES: 29
CORRESPONDENCES: 29
CORRESPONDENCES: 29
CORRESPONDENCES: 20
STREET: Two Embarcadero Center, Eighth Floor
CITY: San Francisco
STATE: California
COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LOCATION: 3
OTHER INFORMATION: /product= "OTHER"
OTHER INFORMATION: /note= "Xaa = cyclohexylalanine"
                                                                                                                                                                                                                                                                 MEDIUM TYPE: FIOPPY UISE
COMPUTER: IN PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION NAMER: US/08/788,822A
APPLICATION NUMBER: US/08/788,822A
FILING DATE: 23-JAN-1997
CLASSIFICATION NUMBER: US 60/10,510
FILING DATE: 24-JAN-196
ATTORNEY/AGENT INCREMENTION:
NAME: Bastian, Kevin L.
REGISTRATION NUMBER: 34,774
REGISTRATION NUMBER: 34,774
REGISTRATION NUMBER: 34,774
REGISTRATION NUMBER: 014137-009210US
TELECOMUNICATION INFORMATION:
TELEPHONE: (415) 576-0200
TELEPHONE: (415) 576-0200
TELEPHONE: (415) 576-0300
TELEPHONE: (415) 576-0300
TELEPHONE: IN INFORMATION: 21:
SEQUENCE CHARACTERISTICS:
LENGTH: 12 amino acids
TYRE amino acids
TYRENE amino acids
TYRENEDENESS:
TOWN THE APPLICATION THE 
             ADDRESSEE: Townsend and Townsend and Crew LLP STREET: Two Embarcadero Center, Eighth Floor CITY: San Francisco STATE: California COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NAME/KEY: Modified-site
LOCATION: 12
OTHER INPORMATION: /product= "OTHER"
OTHER INPORMATION: /note= "Xaa = alaninamide"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match 73.5%; Score 25; DB Best Local Similarity 100.0%; Pred. No. 31; Matches 4; Conservative 0; Mismatches
                                                                                                                                                                                 ZIP: 94111-3834
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FEATURE:
NAME/KEY: Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MOLECULE TYPE: peptide
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         7 WTLK 10
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      Gaps
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                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: Alexander, Jeffrey L.
APPLICANT: DeFrees, Shawn
APPLICANT: DeFrees, Shawn
APPLICANT: Setter, Alessandro
TITLE OF INVENTION: Induction of Immune Response Against
TITLE OF INVENTION: Desired Determinants
NUMBER OF SEQUENCES: 3
CORRESPONDENCES: 3
ADRESSEE: Townsend and Townsend and Crew Lib
STREET: Two Embarcadero Center, Eighth Floor
CITY: San Prancisco
STATE: California
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      73.5%; Score 25; DB 4; Length 4;
100.0%; Pred. No. 2e+05;
iive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COUNTRY: USA
ZIE: 9411-384
COMPUTER READALE FORM:
MEDIUM TYBE: Floppy disk
MEDIUM TYBE: IBM FOC Compactible
COMPUTER: IBM FOC Compactible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATE: 23-JAN-1997
CLASSIFTCATION: 424
PRIOR APPLICATION NUMBER: US/08/788,822A
FILING DATE: 23-JAN-1997
CLASSIFTCATION ATA:
APPLICATION NUMBER: US 60/010,510
FILING DATE: 42-JAN-1996
ATTORNEY/AGENT IRFORMATION:
NAME: Bastian, Kevin L.
REGISTRATION NUMBER: 014137-009210US
TELECOMMUTEATION INFORMATION:
TELECOMMUTEATION INFORMATION:
          ;
0
          Mismatches
                                                                                                                                                                                                                                                                                             Sequence 1, Application US/08788822A Patent No. 6413935
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TELEPAX: (415) 576-0300
INFORMATION FOR SEQ ID No: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 4 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match 73.5
Best Local Similarity 100.
Matches 4; Conservative
             4; Conservative
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MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TYPE: amino acid STRANDEDNESS:
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                                                                         7 WTLK 10
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APPLICANT: DeFrees, Shawn
APPLICANT: DeFrees, Shawn
APPLICANT: DeFrees, Shawn
APPLICANT: Sette, Alessandro
TITLE OF INVENTION: Induction of Immune Response Against
TITLE OF INVENTION: Desired Determinants
NUMBER OF SUCURNICES: 30
CORRESPONDENCE ADDRESS:
ADDRESSE: Townsend and Townsend and Crew LLP
STREET: Two Embarcadero Center, Bighth Floor
STATE: California
COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match 73.5%; Score 25; DB 1; Length 13; Best Local Similarity 100.0%; Pred. No. 33; Matches 4; Conservative 0; Mismatches 0; Indels
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LOCATION: 1..13
OTHER INFORMATION: /note= "Peptide wherein X is
OTHER INFORMATION: tyrosine or phenylalanine."
                                 ATTORNEY/GAREN INCREASE. 09 00/121/101
FILING DATE: 14-SEP-1993
ATTORNEY/GAREN INCREASE. 10/02/101/101
NAME: Bastian, Kevin L.
REGISTRATION NUMBER: 34,774
REFERENCE/DOCKET NUMBER: 14137-0062-10
TELECOMUNICATION INFORMATION:
TELEPRIC (415) 576-0200
INFORMATION FOR SEQ ID NO: 23: SEQUENCE CHARACTERISTICS: LENGTH: 13 amino acids
ITYPE: amino acid
STRANDEDNESS:
                  US 08/121,101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 26, Application US/08788822A
Patent No. 6413935
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LENGTH: 13 amino acids
                                                                                                                                                                                                                                                                                                                                     MOLECULE TYPE: peptide
                     APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                     linear
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-08-305-871A-23
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Sequence 23, Application US/08305871A

Patent No. 5736142

GENERAL INFORMATION:
APPLICANT: Setter, Alessandro
APPLICANT: Gaeta, Federico
APPLICANT: Giety, Howard M.
APPLICANT: Sidney, John
APPLICANT: Alexander, Jeffrey L.
TITLE OF INVENTION: Alexander, Definey Peptides
NUMBER OF SEGUENCES: 29
CORRESPONDENCE ADDRESS:
ADDRESSEE: Townsend and Townsend and Crew LLP
STREET: Two Embarcadero Center, Eighth Floor
CITY: ST MF Francisco
STATE: California
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COMPUTER READABLE PORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION WUMBER: US/08/305,871A
FILING DATE: 14-SEP-1994
PRICR APPLICATION ADATA:
APPLICATION WUMBER: US 08/121,101
FILING DATE: 14-SEP-1993
ATTORNEY/ABRIT INFORMATION:
NAME: Bastian, Kevin L.
REGISTRATION NUMBER: 34,774
REGISTRATION NUMBER: 34,774
REGISTRATION NUMBER: 14137-0062-10
TELECOWNICATION INFORMATION:
TELECOWNICATION NUMBER: 14137-0062-10
TELECOWNICATION NUMBER: 14137-0062-10
TELECOWNICATION NUMBER: 22:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NAME/KEY: Modified-site
LOCATION: 1..13
COTHER INFORMATION: /note= "Peptide wherein X is
CTHER INFORMATION: tyrosine or phenylalanine."
US-08-305-871A-22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SOFTWARE: Patentin Release #1.0, Version #1.30 CURRENT APPLICATION DATA:
PAPLICATION NUMBER: US/08/305,871A FILING DATE: 14-SEP-1994
CLASSIFICATION: 424
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COUNTRY: USA
ZIP: 94111-3834
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC COMPATED:
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LENGTH: 13 amino acids TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TOPOLOGY: linear
MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STRANDEDNESS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |||||
7 WTLK 10
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US-08-305-871A-23
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Gaps
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                                   Sequence 30. Application US/08788822A; Sequence 30. Application US/08788822A; Patent No. 6413935; GENERAL INFORMATION:
APPLICANT: Alexander, Jeffrey L. APPLICANT: Sette, Alesandro
TITLE OF INVENTION: Induction of Immune Response Against TITLE OF INVENTION: Desired Determinants
NUMBER OF SEQUENCES: 30
CORRESPONDENCE ADDRESS:
ADDRESSEE: Townsend and Townsend and Crew LLP
STREET: Two Embacradero Center, Eighth Floor
CITY: San Francisco
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /product= "OTHER"
/note= "Xaa = cyclohexylalanine, Tyr,
Dhe or conservative substitutions
therefor"
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NAME/KEY: Modified-site
LOCATION: 7..8
CTHER INFORMATION: /product= "OTHER"

COTHER INFORMATION: /note= "Xaa may be present or absent"
US-08-788-822A-30
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                                                                                                                                                                                                                                                                                                                                                 COMPUTER: USA

ZIP: 94111-3834

COMPUTER: ERADABLE FORM:
MEDIUM TYPE: FLORDY disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM:
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/788,822A
FILIG DATE: 23-JAN-1997
CLASSIFICATION: 424
PRIOR APPLICATION: 424
PRIOR APPLICATION NUMBER: US 60/010,510
FILING DATE: 24-JAN-1996
FILING DATE: 24-JAN-1996
FILING DATE: 24-JAN-1996
ATTORNEY AGRET INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NAME: Bastian, Kevin L.
REGISTRATION NUMBER: 34,774
REFERENCE/DOCKET NUMBER: 014137-009210US
TELECOMUNICATION INFORMATION:
TELEPRINCE (415) 576-0200
INFORMATION FOR SEQ ID NO: 30:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ; Sequence 1, Application US/08652369A; Patent No. 5861268; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NAME/KEY: Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LENGTH: 14 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TOPOLOGY: linear
MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LOCATION: 3
OTHER INFORMATION: /
OTHER INFORMATION: /
OTHER INFORMATION: P
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Best Local Similarity
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           RESULT 8
US-08-788-822A-30
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US-08-652-369A-1
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                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 27, Application US/08788822A;
Patent No. 6413935
GENERAL INFORMATION:
APPLICANT: APPLICANT: Defrees, Shawn
APPLICANT: Sette, Alessandro
TITLE OF INVENTION: Induction of Immune Response Against
TITLE OF SEQUENCES: 30
CORRESPONDENCE ADDRESS:
ADDRESSEQUENCES: 30
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              73.5%; Score 25; DB 4; Length 13; 100.0%; Pred. No. 33; tive 0; Mismatches 0; Indels
                                                                                                                                                                                                         73.5%; Score 25; DB 4; Length 13; 100.0%; Pred. No. 33; cive 0; Mismatches 0; Indels
                                                                                                       LOCATION: 3
OTHER INFORMATION: /product= "OTHER"
OTHER INFORMATION: /note= "Xaa = cyclohexylalanine"
US-08-788-822A-26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ZIFF: 94111-3834

ZIF: 94111-3834

COMPUTER READABLE PORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
REPLICATION NUMBER: US/08/788,822A
FILING DATE: 23-AN-1997
CLASSIFICATION: 424
PRIOR APPLICATION MATA:
APPLICATION UNMBER: US 60/010,510
FILING DATE: 24-JAN-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ADDRESSEE: Townsend and Townsend and Crew LLP STREET: Two Embarcadero Center, Eighth Floor CITY: San Francisco CTTF: California COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NAME: Bastian, Kevin L.
REGISTRATION NUMBER: 34,774
REGISTRATION NUMBER: 34,774
REGISTRATION NUMBER: 014137-009210US
TELECHONE: (415) 576-0200
TELEPAX: (415) 576-0200
INFORMATION FOR SEQ ID NO: 27: SEQUENCE CHARACTERISTICS:
LENGTH: 13 anino acid
STRANDEDNESS:
                                                                                   NAME/KEY: Modified-site
                                                                                                                                                                                               Query Match
Best Local Similarity 100.0
....hes 4; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match 73.5
Best Local Similarity 100.
Matches 4; Conservative
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MOLECULE TYPE: peptide
US-08-788-822A-27
                TOPOLOGY: linear
MOLECULE TYPE: peptide
STRANDEDNESS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                7 WILK 10
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                                                                                                                                                                                                                                                                                                    7 WTLK 10
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0; Indels
                                                                                                                  COMPUTER READABLE FORM:
MEDIUM TYPE: Disk
COMPUTER: IBM FC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: ParentEI Release #1.0, Version #1.25
CURRENT APPLICATION DATE: 19911015
CLASSIFICATION NUMBER: US/07/741,453A
FILING DATE: 19911015
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: KOKULIS, PAUL N.
REGISTRATION NUMBER: 91913/1107/US/ST
REFERENCE/DOCKET NUMBER: 91913/1107/US/ST
TELECHONE: (202) 861-3000
TELEPHONE: (202) 861-3000
TELEPHONE: (202) 861-3000
TELEPHONE: 714627 CUSH
TELEPHONE: 714627 CUSH
TELEPHONE: 2030 Minio acids
LENGRATION POR SEQ ID NO: 25:
LENGRATION POR SEQ ID NO: 25:
LENGRATION ADDITES
TYPE: AMINO ACID.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMPUTER READABLE PORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM FC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA: US/09/075,257A
RPLICATION NUMBER: US/09/075,257A
FLING DATE: 11-MAY-1998
CLASSIFICATION DATA: 10-PEB-1998
FILING DATE: 10-PEB-1998
FRICH APPLICATION DATA: NO 09/021,298
FRICH APPLICATION DATA: 10-PEB-1998
FRICH APPLICATION DATA: NO 08/950,064
FILING DATE: 14-OCT-1997
FRICH APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              100.0%; Pred. No.
          SEE: CUSHMAN DARBY & CUSHMAN: 1615 L STRRET, N.W. WASHINGTON, D.C. Y: U.S.A.
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Matches 4; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: peptide
                                                                                                     20036
               ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           7 WTLK 10
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US-07-741-453A-25

Sequence 25, Application US/07741453A

Patent No. 6228597

GENERAL INFORMATION:

APPLICANT: PARMINIER, MARC

APPLICANT: USERT, FREDERIC

APPLICANT: VASCAT, GILDER

TITLE OF INVENTION: POLYPEPTIDES HAVING THYROTROPIN-RECEPTOR

TITLE OF INVENTION: ACTIVITY, NUCLEIC ACID SEQUENCES CODING FOR SUCH RECEPTORS

TITLE OF INVENTION: ACTIVITY, NUCLEIC ACID SEQUENCES CODING FOR SUCH RECEPTORS

TITLE OF INVENTION: AND POLYPEPTIDES, AND APPLICATIONS OF THESE POLYPEPTIDES

CORRESPONDENCE ADDRESS:

CORRESPONDENCE ADDRESS:
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APPLICANT: Dean G. Tang, Kenneth V. Honn
TITLE OF INVENTION: Induction of Tumor
TITLE OF INVENTION: Cell Apoptosis With Chemical Inhibitors
TITLE OF INVENTION: Targeted to 12-Lipoxygenase
TOWNERS OF SEQUENCES: 6
CORRESPONDENCES: 6
ADDRESSES: Ian C. McLeod
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match 73.5%; Score 25; DB 2; Length 18; Best Local Similarity 100.0%; Pred. No. 45; Matches 4; Conservative 0; Mismatches 0; Indels Matches 1
                                                                                                                                                                                                                                                                                               MEDIUM TYPE: 360 kb storage
COMPUTER: 360 kb storage
COMPUTER: 1BM Compatible
OPERATING SYSTEM: 3.3)
SOFTWARE: 1BM Compatible
OPERATING SYSTEM: 3.3)
SOFTWARE: Wordperfect 5.1
CURRENT APPLICATION DATA:
FILING DATE: Wordperfect 5.1
CLASSIFICATION NUMBER: US/08/652,369A
FILING DATE: APPLICATION DATA:
FILING DATE: CALOSTORAGE
REGISTRATION NUMBER:
FILING DATE: APPLICATION NUMBER:
TILING DATE: APPLICATION NUMBER:
TELECOMMUNICATION INFORMATION:
NAME: 1an C. McLeod
REGISTRATION NUMBER: Biomide 4.1-11
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION NUMBER: Biomide 4.1-11
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION NUMBER: Biomide 4.1-11
SEQUENCE GRANCERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MOLECULE TYPE:
DESCRIPTION: DNA primer for segment
DESCRIPTION: of 12-lipoxygenase.
                                                                                                                                         ADDRESSEE: Ian C. McLeod
STREET: 2190 Commons Parkway
CITY: Okenos
STATE: Michigan
COUNTY: USA
ZIP: 48864
COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STRANDEDNESS: Single
TOPOLOGY: Linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: Amino Acid
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IMMEDIATE SOURCE:
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ANTI-SENSE: NO
ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                7 WTLK 10
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US-09-075-27A-15
US-09-075-257A-15
Sequence 15, Application US/09075257A
Patent No. 6074645
Sequence 15, Application US/09075257A
Patent No. 6074645
ITILE OF INVENTION: DIAMOND, DON JEFFREY
TITLE OF INVENTION: IMMUNO-REACTIVE PEPTIDE CTL EPITOPES
ITILE OF INVENTION: OF HUMAN CYTOMEGALOVIRUS
NUMBER OF SEQUENCES: 20
CORRESPONDENCE ADDRESS:
ADDRESSEE: BART G. NEWLAND
STREET: 555 13TH STREET, NW SUITE 701E
CITY: WASHINGTON
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match 73.5%; Score 25; DB 3; Length 28; Best Local Similarity 100.0%; Pred. No. 68; Matches 4; Conservative 0; Mismatches 0; Indels
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CTHER INFORMATION: /note= "Xaa = cyclohexylalanine"
OTHER INFORMATION: or phenylalanine"
US-09-075-257A-15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             OPERATION SYSTEM: PC-LOS/MS-LOS OPERATION SYSTEMS PC-LOS/MS-LOS OF SURFACE PARENTIN Release #1.0, Version #1.30 CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/075,257A FILING DATE: 11-NAY-1998
CLASSIFICATION DATA: 424
PRIOR APPLICATION DATA: OS 09/021,298
FILING DATE: 10-FEB-1998
PRIOR APPLICATION NAMER: US 08/950,064
FILING APPLICATION DATA: 14-0CT-1997
PRIOR APPLICATION DATA: 14-0CT-1997
PRIOR APPLICATION DATA: 12-NOV-1996
FILING DATE: 12-NOV-1996
FILING DATE: 12-NOV-1996
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1954-112CP3
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US-09-075-257A-16
; Sequence 16, Application US/09075257A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            REGISTRATION NUMBER: 1982
REGISTRATION NUMBER: 31,282
REFERENCE/DOCKET NUMBER: 1954
TELECOMMUNICATION INFORMATION:
TELEPHONE: 202-783-6031
INFORMATION FOR SEQ ID NO: 15:
SEQUENCE CHARACTERISTICS:
LENGTH: 28 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                STRANDEDNESS: not relevant
TOPOLOGY: not relevant
MOLECULE TYPE: peptide
FRAGMENT TYPE: internal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NAME/KEY: Domain
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10 WTLK 13
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STATE:
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APPLICANT: Diamond, Don J
APPLICANT: Diamond, Don J
APPLICANT: Diamond, Don J
APPLICANT: York, Joanne
TITLE OF INVENTION: CYTOMEGALOVIRUS
CURRENT FILING DATE: 1954-343
CURRENT FILING DATE: 1996-05-11
EARLIER FILING DATE: 1998-05-11
EARLIER APPLICATION NUMBER: 09/021,298
EARLIER APPLICATION NUMBER: 09/021,298
EARLIER FILING DATE: 1997-00-10
EARLIER FILING DATE: 1997-10-14
SEARLIER FILING DATE: 1997-10-14
EARLIER FILING DATE: 1997-10-14
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US-09-534-639-17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NAME/KEY: VARIANT
LOCATION: (6)
OTHER INFORMATION: Xaa = cyclohexylalanine or phenylalanine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     73.5%; Score 25; DB 4; Length 25; 100.0%; Pred. No. 61; tive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   73.5%; Score 25; DB 3; Length 25; 100.0%; Pred. No. 61; tive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NAME/KEY: Domain
LOCATION: 6
OTHER INFORMATION: /note= "Xaa = cyclohexylalanine
OTHER INFORMATION: or phenylalanine"
APPLICATION NUMBER: US 08/747,488
FILING DATE: 12-NOV-1996
ATTORNEY/AGENT INFORMATION:
NAME: NEWLAND, BART G
REGISTRATION NUMBER: 1954-112CP3
REFERENCE/DOCKET NUMBER: 1954-112CP3
TELECOMMUNICATION INFORMATION:
TELEFANE: 202-783-6040
TELEFAN: 202-783-6041
INFORMATION FOR SEQ ID NO: 17:
SEQUENCE CHARACTERISTICS:
LEMGTH: 25 amino acids
LEMGTH: 25 amino acids
TTYPE: amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-09-534-639-17; Sequence 17, Application US/09534639; Patent No. 6251399
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local Similarity 100...
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Matches 4; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                      TOPOLOGY: not relevant
MOLECULE TYPE: peptide
FRAGMENT TYPE: internal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-09-075-257A-17
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Search completed: January 29, 2003, 10:48:22 Job time : 10.4545 secs
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Patent No. 6251399
GENERAL INFORMATION:
APPLICANT: Diamond, Don J
APPLICANT: York, Joanne
TITLE OF INVENTION: IMMUNO-REACTIVE PEPTIDE CTL EPITOPES OF HUMAN
FILE OF INVENTION: CYTOMEGALOVIRUS
FILE REFERENCE: 1954-343
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ;
0
APPLICANT: DIAMOND, DON JEFFREY
APPLICANT: DIAMOND, DON JEFFREY
APPLICANT: ORK, JOANNE
TITLE OF INVENTION: IMMUNO-REACTIVE PEPTIDE CTL EPITOPES
TITLE OF INVENTION: IMMUNO-REACTIVE PEPTIDE CTL EPITOPES
TITLE OF INVENTION: OF HUMAN CYTOMECALOVIRUS
NUMBER OF SEQUENCES: 3
CORRESPONDENCE ADDRESS:
ADDRESSEE: BART G. NEWLAND
STREET: 555 13TH STREET, NW SUITE 701E
STATE: DC
COUNTRY: UGA
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC COMPATIAL
MEDIUM TYPE: PLOPPY disk
COMPUTER: BAPLICATION NATA:
APPLICATION NUMBER: US/09/075,257A
FILING DATE: 11-MAY-1998
CLASSIFICATION NUMBER: US 09/021,298
FILING DATE: 10-FEB-1998
PRIOR APPLICATION NUMBER: US 08/950,064
FILING DATE: 12-NOV-1996
ATPOREY AGENT INFORMATION:
NAME: NEMLAND BART APPLICATION NUMBER: 13,282
REGISTRATION NUMBER: 13,282
REGISTRATION NUMBER: 13,282
REGISTRATION NUMBER: 13,283-644
TELEBOANCET NOWER: 126-040
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          13.5%; Score 25; DB 3; Length 28; ilarity 100.0%; Pred. No. 68; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LOCATION: 6
COTHER INFORMATION: /note= "Xaa = cyclohexylalanine"
OTHER INFORMATION: or phenylalanine"
US-09-075-257A-16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TELEPHONE: 202-783-6040
TELEFAX: 202-783-6031
INFORMATION FOR SEQ ID NO: 16:
SEQUENCE CHARACTERISTICS:
LENGTH: 28 amino acids
TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STRANDEDNESS: not relevant
TOPOLOGY: not relevant
MOLECULE TYPE: peptide
FRAGMENT TYPE: internal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NAME/KEY: Domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local Similarity
Matches 4; Conserv
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US-09-534-639-15
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                                                                                                                                                                                                                                                                                                                                                                                                        TYPE: PRI
ORGANISM: Artificial Sequence
PEATURE:
NAME/KEY: VARIANT
LOCATION: (6)
OTHER INFORMATION: Xaa = cyclohexylalanine or phenylalanine
FRATURE:
OTHER INFORMATION: Description of Artificial Sequence: Human
OTHER INFORMATION: Cytomegalovirus Vaccine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       73.5%; Score 25; DB 4; Length 28; llarity 100.0%; Pred. No. 68; Conservative 0; Mismatches 0; Indels
CURRENT APPLICATION NUMBER: US/09/534,639
CURRENT PILING DAFE: 2000-03-27
EARLIER APPLICATION NUMBER: 09/075,257
EARLIER FILING DATE: 1998-05-11
EARLIER FILING DATE: 1998-02-10
EARLIER FILING DATE: 1998-02-10
EARLIER FILING DATE: 1998-02-10
EARLIER FILING DATE: 1998-01-14
EARLIER FILING DATE: 1997-10-14
EARLIER FILING DATE: 1996-11-12
NUMBER OF SEQ ID NOS: 20
SOUTHARE: PATENTIN UNBER: 08/747,488
SARLIER FILING DATE: 1996-11-12
NUMBER OF SEQ ID NOS: 20
SOUTHARE: PATENTIN OF THE SEG ID NOS: 20
SEQ ID NO 15
LENGTH: 28
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Best Local Similarity
Matches 4; Conserval
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January 29, 2003, 10:42:07; Search time 11.7091 Seconds (without alignments) 114.943 Million cell updates/sec
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                                                               OM protein - protein search, using sw model
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Gapop 10.0 , Gapext 0.5
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Perfect score:
Sequence:
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution. PIR 73:*
1: pir1:*
2: pir2:*
3: pir3:*
4: pir4:* Database :

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

Minimum DB seq length: 0
Maximum DB seq length: 200000000

SUMMARIES

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de	Query Match	71.4			7 T - 4	71.4	71.4	71.4	71.4	71.4	71.4	71.4	71.4	71.4	71.4	71.4	71.4	71.4	71.4	71.4	71.4	71.4	71.4	71.4	71.4	71.4	71.4	71.4	71.4	71.4	71.4
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hypothetical prote	SSU ribosomal prot	E4 protein - cotto	hypothetical prote	hypothetical prote	31K outer-membrane	proteasome activat	proteasome activat	hypothetical prote	hypothetical prote	hypothetical prote	ricin E - castor b	conserved hypothet	hypothetical prote	probable permease	hypothetical prote
C70029	H69539	W4WLRB	AF1898	D71693	AC3615	167638	153518	T45814	T23077	D87397	806330	B95259	E98124	Н98208	AI3077
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207	211	212	217	218	219	238	239	240	249	252	263	264	264	266	266
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hypothetical protein CAG3711 [imported] - Clostridium acetobutylicum CSpecies: Clostridium CSpecies: Clostridium CSpecies: C
A,Title: Comparison of oxidation-reduction site geometries in oxidized and reduced Chrome A,Reference number: 982161; WMID:75019502; PMID:4417854
A,Contents: annotation, X-ray crystallograph of the structures of the oxidized and reduced forms are compared with each other and wite S,Note: structures of the oxidized and reduced forms are compared with each other and wite C,Superfamily: high potential iron-sulfur protein
C,Superfamily: high potential iron-sulfur protein
E,845,46,63,77/Binding site: 4Fe-4S cluster (Cys) (covalent) #status experimental
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     IHTEER high potential iron-sulfur protein - Thiocapsa roseopersicina (tentative sequence)
high potential iron-sulfur protein - Thiocapsa roseopersicina
C;Species: Thiocapsa roseopersicina
C;Species: 31-Mar-1981 #sequence_revision 31-Mar-1981 #text_change 31-Mar-2000
C;Accession: A00264 #sequence_revision 31-Mar-1981 #text_change 31-Mar-2000
C;Accession: A00264 #sequence_revision R.G.; Kamen, M.D.
J. Biol. Chem. 256, 731-735, 1981
A;Title: Primary structures of high potential, four-iron-sulfur ferredoxins from the purp A;Reference number: A92330; WUID-81094036; PMID:7451471
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A.Residues: 1-85 <TED>
C.Superfamily: high potential iron-sulfur protein
C.Keywords: 4Fe-4S; electron transfer; iron-sulfur protein; metalloprotein
F;43,46,63,77/Binding site: 4Fe-4S cluster (Cys) (covalent) #status predicted
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71.4%; Score 25; DB 1; Length 85;
Best Local Similarity 100.0%; Pred. No. 1.2e+02;
Matches 4; Conservative 0; Mismatches 0; Indels
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71.4%; Score 25; DB 2; Length 90;
Best Local Similarity 100.0%; Pred. No. 1.2e+02;
Matches 4; Conservative 0; Mismatches 0; Indels
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Best Local Similarity 100.0%; Pred. No. 1.2
Matches 4; Conservative 0; Mismatches
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80 WTLK 83
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R; Banci, L.; Bertini, I.; Dikiy, A.; Kastrau, D.H.W.; Luchinat, C.; Sompornpisut, P. Submitted to the Brookhaven Protein Data Bank, January 1995
A; Reference number: A65814; DBB.1HRQ
A; Contents: annotation; conformation by (1) H-NNR, reduced form, residues 1-85
R; Bertini, I.; Dikiy, A.; Kastrau, D.H.W.; Luchinat, C.; Sompornpisut, P. Submitted to the Brookhaven Protein Data Bank, December 1995
A; Contents: annotation; conformation by (1) H-NNR, oxidized form, residues 1-85
A; Reference number: A6520; PBB.1NEH
A; Cham. Soc. 113, 2055-2064, 1991
A; Title: The environment of Fe454 clusters in ferredoxins and high-potential iron protein A; Reference number: A4688
A; Roottents: annotation; X-ray crystallography, 2.0 angstroms
A; Roter assignment of Raman spectra frequencies and hydrogen bonds around the iron-sulfu R; Carter Jr., C.W.; Kraut, J; Freer, S.T.; Xuong, N.H.; Alden, R.A.; Bartsch, R.G.
J: Biol. Chem. 249, 4212-4225, 1974
A; Contents: annotation; X-ray crystallography, 2.0 angstroms
A; Reference number: A92153; MUJD:7430924; PMID:4855287
A; Contenté: annotation; X-ray crystallography, 2.0 angstroms
R; Carter Jr., C.W.; Kraut, J; Freer, S.T.; Alden, R.A.
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C;Species: Chromatium vinosum
C;Date: 24-Apr.1984 #sequence revision 24-Oct-1997 #text_change 15-Sep-2000
C;Accession: A92330; A92143; A02143; A02144; A0214; A
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A,Residues: 1-73,'D',75-85 <TED>
A,Residues: 1-73,'D',75-85 <TED>
A,Residues: 1-73,'D',75-85 <TED>
J. By Lus, K.; Tedro, S.; Bartsch, R.G.
J. Biol. Cheu. 248, 7318-7331, 1973
A,Title: The complete amino acid sequence of Chromatium high potential iron sulfur prote
A,Reference number: A92143; MUID:74012043; PMID:4745771
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C;Species: Chromatium tepidum
C;Date: 10-Dec-1993 #sequence_revision 27-Feb-1997 #text_change 18-Jun-1999
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A;Accession: 'ILBSS
A;Actetus: preliminary; translated from GB/EMBL/DDBJ
A;Actetus: preliminary; translated from GB/EMBL/DDBJ
A;Gorleule type: DNA
A;Gorleule type: DNA
A;Gorleule type: DNA
A;Cross-references: EMBL:AF020713; NID:g3025478; PID:g3025572; PIDN:AAC13067.1
A;Cross-references: EMBL:AF020713; NID:g3025478; PID:g3025572; PIDN:AAC13067.1
B;Kunst, F.; Ogsawara, N.; Moscer, I.; Albertini, A.M.; Alloni, G.; Acerer, N.M.; Cho.
A.; Brulich, S.D.; Emmerson, P.T.; Entian, K.D.; Erington, J.; Pabret, C.; Perrari, B.
Nature 390, 249-256, 1997
A;Authors: Foulger, D.; Fritz, C.; Fujita, M.; Fujita, Y.; Funa, S.; Galizzi, A.; Galler, G.; Krodp, S.; Kumano, M.; Kuriter, K.; Laphdus, A.; Latalinois, Koetter, P.; Koningstein, G.; Krodp, S.; Kumano, M.; Kuriter, K.; Laphdus, A.; Latalinois, A;Authors: Lauber, J.; Lazarevic, V.; Lee, S.M.; Levine, A.; Liu, H.; Masuda, S.; Maueel, Y. M.; Ogawa, K.; Ogiwara, A.; Oudega, B.; Park, S.H.; Parro, V.; Pohl, T.M.; Portetelle, Rieger, M.; Rivolta, C.; Rocha, E.; Roche, B.; Rose, M.; Sadaie, Y.; Sato, T.; Scanlon, A;Authors: Schleich, S.; Schroeter, R.; Scoffone, F.; Sekiguchi, J.; Sekowska, A.; Seror, A;Authors: Yoshikawa, H.F.; Zumstein, B.; Yoshikawa, H.; Danchin, A.
A;Reference number: Assertine sequence of the Gram-poattive bacterium Bacillus subtilis. A;Reference number: A;Reference numbe
                                                                                                                                                                                                                                                             hypothetical protein yopx - Bacillus subtilis phage SPBc2
C;Species: Bacillus subtilis phage SPBc2
C;Date: 13-Aug-1999 #sequence_revision 13-Aug-1999 #text_change 20-Jun-2000
C;Accession: T12858; F65918
R;Lazarevic, v; Usepterhoeft, A.; Soldo, B.; Hilbert, H.; Mauel, C.; Karamata, D.
Rubmitted to the EMBL Data Library, August 1997
A;Description: The complete nucleotide sequence of the Bacillus subtilis Spbetac2 prophage
A;Accession: T12858
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A;Cross-references: GB:Z99114; GB:Z99115; GB:AL009126; NID:g2634478; PIDN:CAB13991.1; PII
A;Experimental source: strain 168
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A;Residues: 1-12' «KUR»
A;Cross-references: GB:AE001437; PIDN:AAK81182.1; PID:g15026321; GSPDB:GN00168
A;Experimental source: Clostridium acetobutylicum ATCC824
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                                                                                                                            112 WTLK 115
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                                                            7 WTLK 10
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T12858
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Ltranslation repressor regA - phage RB69
C;Specias: phage RB69
C;Specias: phage RB69
C;Date: 19-Mar-1997 #sequence_revision 19-Mar-1997 #text_change 20-Sep-1999
C;Accesion: A45387
C;Accesion: A45387
A;Title: Regions of bacteriophage T4 and RB69 RegA translational repressor proteins that A;Reference number: A45385; MUID:92279264; PMID:1594613
A;Reference number: A45385
A;Status: preliminary
A;Residues: DNA
A;Residues: 1-122 cJOZ
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A41384

A1384

C;Species: Naja naja atra (Chinese cobra)
C;Date: 30-Jun-1992 #sequence_revision 30-Jun-1992 #text_change 20-Aug-1999
C;Accession: A41384
R;Neumann, D; Barchan, D; Horowitz, M.; Kochva, E.; Fuchs, S.
Proc. Natl. Acad. Sci. U;S.A. 86, 7255-7259, 1989
A;Title: Snake acctylcholine receptor: cloning of the domain containing the four extrace A;Title: Snake acctylcholine receptor: cloning of the domain containing the four extrace A;Molecule type: mRNA
A;Residues: 1-104 <NEU>
A;Coss-references: GB:Mc5388; NID:g213370; PIDN:AAA49384.1; PID:g213371
C;Superfamily: acctylcholine receptor
C;Superfamily: acctylcholine receptor
Appothetical protein 2 - garlic mosaic virus
C;Species: garlic mosaic virus)
C;Species: garlic mosaic virus)
C;Species: garlic mosaic virus)
C;Accession: S2862
C;Accession: S2862
R;Choi, J.N.; Choi, Y.H.; Choi, Y.D.; Lee, J.S.
Submitted to the BMBL Data Library, June 1992
A;Description: Nucleotide sequence of a cDNA for garlic mosaic virus.
A;Reference number: S2862
A;Accession: S2863
A;Status: preliminary
A;Molecule type: genomic RNA
A;Residues: 1-96 <CHO>
A;Residues: 1-96 <CHO>
A;Cross-references: EMBL:X67134; NID:g59391; PIDN:CAA47614.1; PID:g59393
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C;Genetics:
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C;Superfamily: phage T4 translation repressor
C;Keywords: RNA binding; translation repressor
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58 WTLK 61
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hypothetical protein SS01384 [imported] - Sulfolobus solfataricus transposon ISC1078 C;Species: Sulfolobus solfataricus C;Species: Sulfolobus solfataricus C;Species: 24-May-2001 #sequence_revision 24-May-2001 #text_change 24-May-2001 C;Sccession: C90295 A; Singh, R.K.; Confalonieri, F.; Zivanovic, Y.; Allard, G.; Awayez, M.J.; Chan-V. Jong, II; Jeffrise, A.C.; Kozera, C.J.; Medina, N.; Peng, X.; Thi-Ngoc, H.P.; Redder, P. submitted to GenBank, April 2001 A; Description: Sulfolobus solfataricus complete genome.
A;Reference number: A99139
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hypotenis: Aeropyrum pernix
C;Species: 20-Aug-1999 #text_change 20-Jun-2000
C;Accession: E72731

B;Kawarabayaai, Y.; Hino, Y.; Horikawa, H.; Yamazaki, S.; Haikawa, Y.; Jin-no, K.; Takahawa, H.; Takanaya, M.; Masuda, S.; Funahashi, T.; Tanaka, T.; Kudoh, Y.; Yamazaki, J.; KuDNA Res. G. 33-101, 1999

A;Tile: Complete genome sequence of an aerobic hyper-thermophilic Crenarchaeon, Aeropyru
A;Reference number: A72450; MUID:99310339; PMID:10382966
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A,Molecule type: DNA
A,Residues: 1-159 «KDA»>
A,Cross-references: DNA
A,Cross-references: DNB:AP000059; NID:g5103911; PIDN:BAA79345.1; PID:g5104029
A,Experimental source: strain Kl
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A, Molecule type: DNA
A, Residues: 1.152 <KUR>
A, Cross.references: GB: AE006641; NID:g13814600; PIDN: AAK41618.1; GSPDB:GN00155
C, Genetics:
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                                                                                    Length 152;
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71.4%; Score 25; DB 2; Length 152
Best Local Similarity 100.0%; Pred. No. 2.1e+02;
Matches 4; Conservative 0; Mismatches 0; Indels
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C,Genetics:
A,Gene: SSO0040; SSO1750; SSO2992; SSO1264
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91 WTLK 94
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A; Pescription: Sulfolobus solfataricus complete genome.
A; Reference number: A99139
                                                                                                                                                                                                                                                                                                                                                                                                                                    Dartial transposase ISC1078 [imported] - Sulfolobus solfataricus CiSpecies: Sulfolobus solfataricus CiSpecies: Sulfolobus solfataricus CiSpecies: Sulfolobus solfataricus CiAccesion: G9472 Singh, R.K.; Confacionicui, F.; Zivanovic, Y.; Allard, G.; Awayez, M.J.; Chandong, I.; Jaffries, A.C.; Kozera, C.J.; Medina, N.; Peng, X.; Thi-Ngoc, H.P.; Redder, F arrett, R.A.; Ragan, M.A.; Sensen, C.W.; Van der Oost, J. A.; Ragan, M.A.; Sensen, C.W.; Van der Oost, J. A.; Reference number: A99139 Solfataricus complete genome. A.; Reference number: A99139 A.; Reference number: A99139 A.; Reference number: A99139 A.; Reference number: A99139 A.; Residues: 1-137 - KWIR-ARK43038.1; GSPDB:GN00155
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A; Cross.references: 1-152 «KUR»

A; Residues: 1-152 «KUR»

A; Residues: 1-152 «KUR»

A; Status: preliminary

A; Gross.references: GB: ABC006641; NID: G13813171; PIDN: AAK40405.1; GSPDB: GN00155

A; Cross.references: GB: ABC006641; NID: G13814994; PIDN: AAK41946.1; GSPDB: GN00155

A; Cross.references: GB: ABC006641; NID: G13814994; PIDN: AAK41946.1; GSPDB: GN00155

A; Cross.references: GB: ABC006641; NID: G13816382; PIDN: AAK41098.1; GSPDB: GN00155

A; Cross.references: GB: ABC006641; NID: G13816382; PIDN: AAK41098.1; GSPDB: GN00155

A; Cross.references: GB: ABC006641; NID: G13814460; PIDN: AAK41502.1; GSPDB: GN00155

A; Cross.references: GB: AEC06641; NID: G13814460; PIDN: AAK41502.1; GSPDB: GN00155

A; Cross.references: GB: AEC06641; NID: G13814460; PIDN: AAK41502.1; GSPDB: GN00155
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       A,Gene: yopX
C,Superfamily: Bacillus subtilis phage SPBC2 hypothetical protein yopX
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                                                                                       Query Match 71.4%; Score 25; DB 2; Length 134; Best Local Similarity 100.0%; Pred. No. 1.9e+02; Matches 4; Conservative 0; Mismatches 0; Indels
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31 WTLK 34
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GenCore version 5.1.3
Copyright (c) 1993 - 2003 Compugen Ltd.
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OM protein - protein search, using sw model

January 29, 2003, 10:30:17; Search time 6.36364 Seconds (without alignments) 91.248 Million cell updates/sec Run on:

US-09-707-738-24 35 1 XXXXXXWTLKXXXX 14 Title:
Perfect score:
Sequence: Scoring table: BLOSUM62 Gapop 10.0 , Gapext 0.5

112892 seqs, 41476328 residues Searched:

Total number of hits satisfying chosen parameters:

Minimum DB seq length: 0 Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

SwissProt_40:* Database :

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

ES	Description	P80176 thermochrom		Q04353	O9miy2	P14143	O9zb79	P00260	001751	095177	027964	P03124			Q63798 rattu		P97372	045322		P39173			Q14914			P76342 escherichia	Q8xes1	Q9k8v2 bacillus ha	Q9pyy5 xestia c-ni	061190	Q28719	90226Ö	051059 borr	DSS102 homo sanian
SUMMARIES		HPIS THETI	HPIS THIRO	Y1B1 CLOAB	NULM BRARE	ACHA NAJNA	ACPS_MYCGE	HPIS CHRVI	REGA_BPR69	CP03_HUMAN	RS3A_ARCFU	VE4_CRPVK	Y363 RICPR	MSRA BOVIN	PSE2_RAT	PSE2_HUMAN	PSE2_MOUSE	OM31_BRUME	YC80_GUITH	UP08_ECOLI	LECI RAT	YC30_ODOSI	LB4D HUMAN	LB4D_PIG	YEDY_ECO57	YEDY ECOLI	YEDY_SALTY	ARGC_BACHD	CATV_GVXN	I10S_MOUSE	LB4D RABIT		Y028 BORBU	THE HIMAN
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	Query Match	71.4	71.4	71.4	71.4	71.4	71.4	71.4	71.4	71.4	71.4	71.4	71.4	71.4	71.4	71.4	71.4	71.4	71.4	71.4	71.4	71.4	71.4	71.4	71.4	71.4	71.4	71.4	71.4	71.4	71.4	71.4	71.4	71.4
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## ALIGNMENTS

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                                                                                                                                                                                                                                                                                    STRAIN=ATCC 824 / DSM 792 / VKM B-1787;
MRDINE-21159325; PubMed=11466286,
MRDINE-21159325; PubMed=14466286,
MRDINE-21159325; PubMed=14466286,
MOGALLING J., Breton G., Omelchenko M.V., Makarova K.S., Zeng Q.,
Gibson R., Lee H.M., Dubois J., Qiu D., Hitti J., Wolf Y.I.,
Tatusov R.L., Sabathe F., Doucette-Stamm L., Soucaille P., Daly M.J.,
Bennett G.N., Koohin B.V., Smith D.R.;
"Genome sequence and comparative analysis of the solvent-producing
Genome sequence and comparative analysis of the solvent-producing
J. Bacteriol. 183:4823-4838(2001).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
Actinopterygli; Neopterygli; Teleostel; Ostariophysi; Cypriniformes;
Cyprinidae; Danio.
NCBI_TAXID=7955;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE-21549095; PubMed=11691861;
Broughton R.B., Milam J.B., Roe B.A.;
Broughton R.B., Milam J.B.
"The complete sequence of the zebrafish (Danio rerio) mitochondrial
genome and evolutionary patterns in vertebrate mitochondrial DNA.";
Genome Res. 11:1958-1967(2001).
-:- CAPALYTIC ACTIVITY: NADH + ubiquinone = NAD(+) + ubiquinol.
                                                                                                                                           Sauer U., Duerre P.;
"Sequence and molecular characterization of a DNA region encoding
small heat shock protein of Clostridium acetobutylicum.";
J. Bacceriol. 175:3394-3400(1993).
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BMBL; AE007866; AAK81631.1; -.
Hypothetical protein Complete proteome.
SEQUENCE 90 AA, 10302 MM; DDDDB0F5C2FDD3CC CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       15-JUN-2002 (Rel. 41, Created)
115-JUN-2002 (Rel. 41, Last sequence update)
115-JUN-2002 (Rel. 41, Last annotation update)
NADH-ubiquinone oxidoreductase chain 4L (EC 1.6.5.3).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        71.4%; Score 25; DB 1;
100.0%; Pred. No. 59;
iive 0; Mismatches 0
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                                                                    SEQUENCE FROM N.A.
STRAIN=ATCC 824 / DSM 792 / VKM B-1787;
MEDLINE=93273706; PubMed=8501044;
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nes 4; Conserv
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                       NCBI_TaxID=1488;
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     Clostridium
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Thiocapsa roseopersicina.
Bacteria; Proteobacteria; gamma subdivision; Chromatiaceae; Thiocapsa.
NCBI_TaxID=1058;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDLINEE 1094036; PubMed=7451471;

MEDLINEE 11094036; PubMed=7451471;

Tedro S.M., Meyer T.E., Bartsch R.G., Kamen M.D.;

Tedro S.M., Meyer T.E., Bartsch R.G., Kamen M.D.;

"Primary structures of high potential, four-iron-sulfur ferredoxins from the pruple sulfur photosynthetic bacteria, Thiocapsa roseopersicina and Chromatium gracile.";

J. BLO1. Chem. 256:731-735(1981).

-!- FUNCTION: SPECIFIC CLASS OF HIGH-REDOX-POTENTIAL 4FE-4S

FERREDOXINS. FUNCTIONS IN AAMEROBIC ELECTRON TRANSPORT IN MOST PURPLE AND IN SOME OTHER PHOTOSYNTHETIC BACTERIA AND IN AT LEAST ONE SENUS (FRARACOCCUS) OF HALOPHILIC, DENITRIFYING BACTERIA.

-!- SUBMINT: HOWODIMER (PROBABLE).

-!- SUBMIT: BELONGS TO THE HIGH POTENTIAL IRON-SULFUR PROTEIN
                                                                                                                                              Gaps
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Clostridium acetobutylicum
Bacteria; Firmicutes, Clostridia, Clostridiales, Clostridiaceae,
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55;
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Pred. No. 56;
                                                                                                                                              0; Indels
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IRON-SULPUR (4FE-4S) (BY SI
IRON-SULPUR (4FE-4S) (BY SI
IRON-SULPUR (4FE-4S) (BY SI
C47AD747D2218482 CRC64;
IRON-SULFUR (4FE-4S).
IRON-SULFUR (4FE-4S).
92116E4FD2C44E0A CRC64;
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                                                                                                                                                                                                                                                                                                                                                                                     21-JUL-1986 (Rel. 01, Created)
21-JUL-1986 (Rel. 01, Last sequence update)
15-JUN-2002 (Rel. 41, Last annoration update)
High potential iron-sulfur protein (HiPIP).
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(Rel. 40, Last sequence update)
(Rel. 40, Last annotation update)
                                                                               71.4%; Scor.
100.0%; Pred. No. J.,
0, Mismatches
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PRINTS; PR00374; HIPIPRDOXIN.
PROSITE; PS00056; HIPIP; I.
Electron transport; Iron-sulfur; 4Fe-4S.
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  61 61
75 75
83 AA; 8786 MW;
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PIR; A00264; IHTFER.
HSSP; P00260; 1CKU.
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16-OCT-2001
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Q04353;
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SEQUENCE
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HPIS THIRO
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Gaps

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Gaps

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Length 104 0; Indels

71.4%; Score 25; DB 1; 100.0%; Pred. No. 68; iive 0; Mismatches 0

Best Local Similarity 100. Matches 4; Conservative

Query Match

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               and for commercial
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              -!- SUBUNIT: PENTAMER OF TWO ALPHA CHAINS, AND ONE EACH OF THE BETA, BETA, AND OAMMA CHAINS.
-!- SUBCELLULAR LOCATION: Integral membrane protein.
-!- SIMILARITY: BELONGS TO THE LIGAND-GATED IONIC CHANNEL PAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        01-07N-1990 (Rel. 13, Created)
01-07N-1990 (Rel. 11, Last sequence update)
15-UVN-2002 (Rel. 41, Last annotation update)
Acetylcholine receptor protein, alpha chain (Fragment).
Naja naja (Indian cobra).
Bukaryota, Metazoa; Chordata, Craniata, Vertebrata, Buteleostomi; Lepidosauria; Squamata; Scleroglossa; Serpentes; Colubroidea; Elapidae; Elapidae; Naja.
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BY SIMILARITY.
ASSOCIATED WITH RECEPTOR ACTIVATION.
N-LINKED (GLCNAC. . .) (PROBABLE).
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Pf6m; PPC2391; Neur_chan LBD; 1.
PROSITE; PS00291; NEUROTR; ION CHANNEL; 1.
Receptor; Postsynaptic membrane; Ionic channel; Glycoprotein.
NON TER 1 1 1 EXTRACELLULAR.
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               Usage by
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75 ASSOCIATED WITH RECEPTOR A
23 N-LINKED (GLCNAC. . . ) (PR
104 104 7739E2C9BFBA7A0 CRC64;
                                                                                                                                                                                                                                                                             Oxidoreductase, NAD, Ubiquinone, Mitochondrion.
SEQUENCE 98 AA, 10523 MW, 54C4B6230D23EF24 CRC64;
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modified and this statement is not removed. entities requires a license agreement (See or send an email to license@isb-sib.ch).
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                                                                                                        EMBL, AC024175, AAF74305.1, -...
ZFIN, ZDB-GENE-011205-11, mtnd41.
InterPro, IPR001133, Oxidored 4L.
InterPro, IPR003214, Oxidred4L.
Ffam, PF00420, oxidored q2, 1.
ProDom, PD0000359, Oxidred4L, 1.
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                                                                                                                                                                                                                                                                                                                                                                                         Local Similarity 100.
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104 AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NCBI_TaxID=35670;
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                                                                                                                         30-MAY-2000 (Rel. 39, Created)
30-MAY-2000 (Rel. 39, Last sequence update)
15-UNN-2002 (Rel. 41, Last annotation update)
15-UN-2012 (Rel. 41, Last annotation update)
(4-cholacyl-carrier proteinl synthase (RC 2.7.8.7) (Holo-ACP synthase)
(4'-phosphopantetheinyl transferase acps).
                                                                                                                                                                                                                                                                                                            Fraeer C.M., Gocayne J.D., White O., Adams M.D., Clayton R.A., Fleischmann R.D., Bult C.J., Kerlavage A.R., Sutton G., Kelley J.M., Fritchman J.L., Weidman J.F., Sandusky M., Fuhrmann J.L., Mcyen D.T., Utterback T.R., Saudek D.M., Phillips C.A., Merrick J.M. Tomb J.-F., Dougherty B.A., Bott K.F., Hu P.-C., Lucier T.S., Peresrson S.M., Smith H.O., Hutchison C.A. III, Venter J.C.; Stich H.O., Hutchison C.A. III, Venter J.C.; Stich C.D., Stich C.D., Mycoplasma genitalium.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Pfan, PF01648; ACPS; 1.
ProDom; PD004282; ACPS; 1.
TIGREAMS; TIGR0556; pantethn trn; 1.
Transferase; Lipid synthesis, Fatty acid biosynthesis; Magnesium;
                                                                                                                                                                                                             Mycoplasma genitalium.
Bacteria; Firmicutes; Mollicutes; Mycoplasmataceae; Mycoplasma
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8 MAGNESIUM (BY SIMILARITY).
58 MAGNESIUM (BY SIMILARITY).
13153 MW; 8992BBB560373E92 CRC64;
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InterPro; IPR004568; Pantethn_trn.
                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
STRAIN-ATCC 33530 / G-37;
MEDLINE-96026346; PubMed=7569993;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EMBL; U39701; AAC71438.1; -.
                                                                                                STANDARD;
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                                                                                                                                                                                                                                          NCBI_TaxID=2097;
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IDENTIFICATION.
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7 WTLK 10
                       58 WTLK 61
                                                                                                MYCGE
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SEQUENCE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                    "Ab initio solution and refinement of two high-potential iron protein structures at atomic resolution.";

Acta Crystallogr. D 55:1773-1784(199).

-i- FUNCTION: SPECIFIC CLASS OF HIGH-REDOX-POTENTIAL 4FE-4S

-i- FUNCTION: SPECIFIC CLASS OF HIGH-REDOX-POTENTIAL AFE-4S

-i- FUNCTION: PUNCTIONS IN ANMEROBIC ELECTRON TRANSPORT IN MOST

PURPLIE AND IN SOME OTHER PHOTOSYNTHETIC BACTERIA AND IN AT LEAST

ONE GENUS (PARACOCCUS) OF HALOPHILIC, DENITRIFYING BACTERIA.

-i- SUBDITI: HOMODIMER (PROBABLE).

-i- SUBGELLUTAR LOCATION: Periplasmic.

-i- SIMILARITY: BELONGS TO THE HIGH POTENTIAL IRON-SULFUR PROTEIN
                                                                                                                                                                                                                                             STRUCTURE BY NMR OF MUTANT SER-114.

MEDLINE-96216867; PubMed-8619555;

MEDLINE-96216867; PubMed-8619555;

MEDLINE-96216867; PubMed-8619555;

"Three-dimensional structure of the reduced C77S mutant of the Chromatium vinosum high-potential iron-sulfur protein through nuclear magnetic resonance: comparison with the solution structure of the wild-trype protein.";

Biochemistry 35:5928-5936(1996).
                                                                                                                       MEDINE-95359150; PubMed=7632685;
Bertini I., Dikiy A., Kastrau D.H., Luchinat C., Sompornpisut P.;
"Three-dimensional solution structure of the oxidized high potential iron-sulfur protein from Chromatium vinosum through NMR. Comparative analysis with the solution structure of the reduced species.";
Biochemistry 34:9851-9858 (1995).
                     Sompornpisut P.; "The distribution structure of the reduced high-"The three-dimensional solution structure of the reduced high-potential iron-sulfur protein from Chromatium vinosum through NWR."; Biochemistry 34:206-219(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            HIGH POTENTIAL IRON-SULFUR PROTEIN.
IRON-SULFUR (4PE-45).
IRON-SULFUR (4PE-45).
IRON-SULFUR (4PE-45).
IRON-SULFUR (4PE-45).
N -> D (IN REF. 3).
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Pfam; PF01355; HIPIP; 1.
PRINIS; PR00374; HIPIPPRDOXIN.
PROSITE; PS00596; HIPIP; 1.
Electron transport; Iron-sulfur; 4Fe-48; Periplasmic; Signal;
Bertini I., Dikiy A., Kastrau D.H.W., Luchinat C.,
                                                                                                                                                                                                                                                                                                                                                                                                                         MEDLINE=20003126; PubMed=10531472; Parisin E., Capozzi F., Lubini P., Lamzin V., Luchinat C., Shaldrick G.M.
                                                                                                                                                                                                                                                                                                                                                                                                          X-RAY CRYSTALLOGRAPHY (0.93 ANGSTROMS).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EMBL; U81381; AAB48829.1; -.
PIR; A00263; IHKREV.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1HIP; 15-APR-93.
1HRQ; 03-JUN-95.
1HRR; 31-JUL-95.
1NEH; 08-MAR-96.
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1BOY; 16-DEC-98.
1CKU; 13-MAY-99.
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STRAIN=D / ATCC 17899 / DSM 180;
MEDLINE=97320627; PubMed=9177478;
Bruser T., Truper H.G., Dall C.;
"Cloning and sequencing of the gene encoding the high potential iron-sulfur protein (HiPIP) from the purple sulfur bacterium Chromatium
                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaillard J., Albrand J. P., Moulis J.-M., Wemmer D.E.;
"Sequence-specific assignments of the 1H nuclear magnetic resonance
spectra of reduced high-potential ferredoxin (HiPIP) from Chromatium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE OF 38-122.
STRAIN=D / ATCC 17899 / DSM 180;
MEDLINE=74012043; PubMed=474771;
Dus K., Tedro S., Bartsch R.G.;
"The complete amino acid sequence of Chromatium high potential iron
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            REVISIONS TO 48; 82 AND 111.
MEDLINE-81094036; PubMed-1451471;
Tedro S.M., Weyer T.E., Bartsch R.G., Kamen M.D.;
Terro S.M., Weyer T.E., Bartsch R.G., Kamen M.D.;
Frimary structures of high potential, four-iron-sulfur ferredoxins
from the purple sulfur photosynthetic bacteria, Thiocapsa
roseopersicina and Chromatium gracile.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         "2-A crystal structure of oxidized Chromatium high potential iron
                                          ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDLINE=74309824; PubMed=4855287; Carter C.W. Jr., Kraut J., Freer S.T., Xuong N.H., Alden R.A.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDLINE=92135210; PubMed=1734968; Netreshaim D.G., Harder S.R., Ferinberg B.A., Otvos J.D.; Netreshaim D.G., Harder S.R., Ferinberg B.A., Otvos J.D.; "Sequential resonance assignments of oxidized high-potential iron-sulfur protein from Chromatium vinosum.";
                                                                                                                                                                                                                                                                                                                                          Bacteria; Proteobacteria; gamma subdivision; Chromatiaceae;
         Length 114;
                                          0; Indels
                                                                                                                                                                                                 HPIS CHRVI STANDARD; PRT; 122 AA. pp0326; p96753; Ogpark3; 21.0UL-1986 (Rel. 01, Created) 15-DEC-1998 (Rel. 37, Last sequence update) 15-UNN-2002 (Rel. 41, Last annotation update) High potential iron-sulfur protein precursor (HiPIP).
     71.4%; Score 25; DB 1
100.0%; Pred. No. 74;
ive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Biochim. Biophys. Acta 1352:18-22(1997)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RAY CRYSTALLOGRAPHY (2.0 ANGSTROMS).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             J. Biol. Chem. 248:7318-7331(1973).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Biol. Chem. 249:4212-4225(1974).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEDLINE=95118989; PubMed=7819198;
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MEDLINE=92304939; PubMed=1610810;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                J. Biol. Chem. 256:731-735(1981)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Biochemistry 31:5632-5639(1992).
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         Query Match 71.4
Best Local Similarity 100.
Matches 4; Conservative
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                                                                             7 WTLK 10
                                                                                                            54 WTLK 57
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                                                                                                                                                                                                                                                                                                                                                                          MEDILIDE-SPRONDIN, MEDILIDE-SPRONDIN, MEDILIDE-SPRONDIN, Pubmed-SPRONDIN, Pubmed-SPRONDIN, Pubmed-SPRONDIN, Pubmed-SPRONDIN, Pubmed S.A., Setteadrian C., Crawford J., Lower K.M., McCallum B., Seshdari R., Cornelisse C.J., Moerland E.W., Clecon-Jansen A.-M., Tipping A.J., Mathew C.G., Savino M., Savoida A., Verlander P., Auerbach A.D., Van Berkel C., Pronk J.C., Dogget N.A., Callen D.F., "Characterization and screening for mutations of the growth arrest-specific 11 (GASI1) and Cléorf3 genes at 16q24.3 in breast cancer.", Genomics 52:325-331(1999).
                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                            Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
NCBL_TaxID=9606;
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0
                                          Query Match 71.4%; Score 25; DB 1; Length 122; Best Local Similarity 100.0%; Pred. No. 79; Matches 4; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     71.4%; Score 25; DB 1; Length 125; 100.0%; Pred. No. 81; tive 0; Mismatches 0; Indels
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 72 72 D->G: 100% ACTIVITY LOSS.
122 AA; 14431 MW; C4374CE90E16D1D3 CRC64;
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125 AA; 12619 MW; ACCA40DBEE0A79B4 CRC64;
                                                                                                                                                                                                                               16-OCT-2001 (Rel. 40, Created)
16-OCT-2001 (Rel. 40, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         30-MAY-2000 (Rel. 39, Created)
30-MAY-2000 (Rel. 39, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
RPG3AE OR AF23AO.
Archaeoglobus fulgidus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EMBL; AF050081; AAC69521.1; -. EMBL; AF050080; AAC69520.1; -. Genew; HGNC:1197; C16orf3.
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                                                                                                                                                                                                                                                                                                        Homo sapiens (Human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Local Similarity
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095177; 095176;
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                                                                                                                               112 WTLK 115
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027964;
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                 SEQUENCE
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CP03_HUMAN
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ID RS3A_AN
AC 027964
AC 027964
DT 30-MAY.
DT 16-OCF.
DE 30S xij
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Matches
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                                                                                                                                                                                                                   This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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MEDLINE-92279264; PubMed=1594613;

JOSWIK C.E., Miller E.S.;

"Regions of bacteriophage T4 and RE69 RegA translational repressor proceins that determine RNA-binding specificity.";

Proc. Natl. Acad. Sci. U.S.A. 89:5053-5057(1992);

-!- FUNCTION: CONTROLS THE TRANSLATION OF A NUMBER OF PROTEINS (SUCH AS REGA ITSELF, RIIB AND AT LEAST 35 OTHERS) BY BINDING TO THEIR MRNA.
                                                                                                                                                                                                                                                                                                                                                  Gaps
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0
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T4-like viruses.
                                                                                                                                                                                                                                                                                                                h 71.4%; Score 25; DB 1; Length 122; Similarity 100.0%; Pred. No. 79; 4; Conservative 0; Mismatches 0; Indels
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Pfam; PF01818; Translat reg; 1.

Probom; PD031547; Translat reg; 1.

Pranslation regulation; Repressor; DNA-binding.

DNA BIND

15 37 H-T-H MOTIF (POTENTIAL).

MUTÄGEN 24 1-x: ACTIVITY ALFREED.

MUTÄGEN 25 25 A-V: 100% ACTIVITY LOSS.

MUTÄGEN 37 37 H-X: 100% ACTIVITY LOSS.
                                                                                                                                                                                                                                                                                       12761 MW; ACBBAFC917F32A09 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     15-DEC-1998 (Rel. 37, Created)
15-DEC-1998 (Rel. 37, Last sequence update)
15-DEC-1998 (Rel. 37, Last annotation update)
Translation repressor protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EMBL; M86231; AAA32295.1; -.
HSSP; P04528; 1REG.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STANDARD;
 122 AA;
                                                                                                                                                                                                                                                                                                                               Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Bacteriophage RB69
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NCBI_TaxID=12353;
 117 WTLK 120
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modified and this statement is not removed.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0;
                                                                                                                                                                           Klenk H.-P., Clayton R.A., Tomb J.-F., White O., Nelson K.E., Ketchum K.A., Dodgon R.J., Gwinn M., Hickey E.K., Peterson J.D., Rechamed R.A., Dodgon R.J., Graham D.E., Kyrpides N.C., Pleischmann R.D., Quackenbush J., Lee N.H., Sutton G.G., Gill S., Fixiness B.F., Dougherty B.A., McKenney K., Adams M.D., Loftus B., Peterson S., Reich C.I., McNeil L.K., Badger J.H., Glodek A., Zhou L., Overbeek R., Gocayne J.D., Weidman J.F., McDonald L., Utterback T., Octton M.D., Spriggs T., Arlach P., Kaine B.P., Sykes S.M., Sadow P.W., D'Andrea K.P., Bowman C., Fujii C., Garland S.A., Mason T.M., Olsen G.J., Fraser C.M., Smith H.O., Woese C.R.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Giri I., Danos O., Yaniv M.;
"Genomic structure of the cottontail rabbit (Shope) papillomavirus.";
Proc. Natl. Acad. Sci. U.S.A. 82:1580-1584(1985).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       "The complete genome sequence of the hyperthermophilic, sulphatereducing archaeon Archaeoglobus fulgidus.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Nature 390:364-370(1997).
-!- SIMILARITY: BELONGS TO THE S3AE FAMILY OF RIBOSOMAL PROTEINS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Viruses; dsDNA viruses, no RNA stage; Papillomaviridae; Papillomaviridae; NCBI TaxID=31553;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 h Similarity 100.0%; Pred. No. 1.46+02; 4; Conservative 0; Mismatches 0; Indels
Archaea; Euryarchaeota; Archaeoglobi; Archaeoglobales;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      24334 MW; 3463C7042B0F2796 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     21-JUL-1986 (Rel. 01, Created)
21-JUL-1986 (Rel. 01, Last sequence update)
01-OCT-1996 (Rel. 34, Last annotation update)
Probable E4 protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        InterPro; IPRO1593; Ribosomal_S3AE.
Pfam; PP01015; Ribosomal_S3Ae; 1.
ProDom; PD003035; Ribosomal_S3AE; 1.
PROSITE, PS01191; RIBOSOMAL_S3AE; PALSE_NEG.
Ribosomal protein; Complete proteome.
SEQUENCE 211 AA; 24334 MW; 34610704204077
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      212 AA.
                                                                                                        SEQUENCE FROM N.A.
STRAIN=VC-16 / DSM 4304 / ATCC 49558;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
MEDLINE=85166175; PubMed=2984661;
                                                                                                                                                         MEDLINE=98049343; PubMed=9389475;
                          Archaeoglobaceae; Archaeoglobus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EMBL; AE000944; AAB88936.1; -.
TIGR; AF2320; -.
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Best Local Similarity
Matches 4; Conserval
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P03124;
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VEA CRAVK

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(See http://www.isb-sib.ch/announce/
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MEDLINE=9903949; PubMed=9823893; Andersson J.O., Andersson A.G.E., Zomorodipour A., Andersson J.O., Sicheritz-Ponten T., Alsmark U.C.M., Podowski R.M.; Naeslund A.K Eriksson A.-S., Winkler H.H., Kurland C.G.; The genome sequence of Rickettsia prowazekii and the origin of mitochondria.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              .,
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01-OCT-1996 (Rel. 34, Last sequence update)
15-UN-2002 (Rel. 41, Last amoration update)
Peptide methorine sulfoxide reductase (BC 1.8.4.6) (Proteinmethionine-S-oxide reductase) (Peptide Met (O) reductase).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Bacteria, Proteobacteria, alpha subdivision, Rickettsiales,
Rickettsiaceae, Rickettsieae, Rickettsia.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match 71.4%; Score 25; DB 1; Length 218; Best Local Similarity 100.0%; Pred. No. 1.4e+02; Matches 4; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                         71.4%; Score 25; DB 1; Length 212; 100.0%; Pred. No. 1.4e+02; Live 0; Mismatches 0; Indels
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Pypothetical protein; Complete proteome.
SPQUENCE 218 AA, 25780 MW; 2D8BDD7DB938F954 CRC64;
                                                                                                                                                                             212 AA; 24104 MW; 9FB8DA3FB14ADB5B CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Nature 396.133-140(1998).
-!- SIMILARITY: SOME, TO R.PROWAZEKII RP364.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    233 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            218 AA.
                              entities requires a license agreement (S. or send an email to license@isb-sib.ch).
                                                                                                EMBL; K02708; -; NOT_ANNOTATED_CDS
PIR; A03674; W4WLRB.
                                                                                                                                                                                                                                                          Best Local Similarity 100.
Matches 4; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Rickettsia prowazekii.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STRAIN=Madrid E;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NCBI_TaxID=782;
                                                                                                                                                          Early protein.
SEQUENCE 212
                                                                                                                                                                                                                                                                                                                                    7 WTLK 10
                                                                                                                                                                                                                                                                                                                                                                        73 WTLK 76
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P54149;
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                                                                                                                                                                                                                                    Query Match
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Tanaka K.,

for

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                                                                                                                                                                                                                                                                                                                                        cleavage pattern of the proteasome.
SUBUNIT: HETERODIMER OF PSME1 AND PSME2, WHICH FORMS A HEXADIMERIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PSE2 HUMAN STANDARD; PRT; 239 AA.

QUUT46: Q15129;

16-OCT-2001 (Rel. 40, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
16-OCT-2001 (Rel. 40, Last annotation update)
Proceasome activator complex subunit 2 (Proceasome activator 28-beta subunit) (ARZ8beta) (RAZ8beta) (RAZ8beta) (RAZ8beta) (ARZ8beta) (ARZ8beta
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDLINE-99216442; PubMed=10199920; McCusker D., Wilson M., Trowedale J.; Organization of the genes encoding the human proteasome activators PA28 alpha and PA28 beta.";
                                                                                                                       "Primary structures of two homologous subunits of PA28, a gamma-
interferon-inducible protein activator of the 20S proteasome.";
FEBS_Lett. 36:37-42(1995).
-!- FUNCTION: Implicated in immunoproteasome assembly and required
efficient antigen processing. The PA28 activator complex enhance
the generation of class I binding peptides by altering the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               "Primary structures of two homologous subunits of PA28, a gamma-
interferon-inducible protein activator of the 20S proteasome.";
FEBS Lett. 366:37-42(1995).
                          Ahn J.Y., Tanahashi N., Akiyama K., Hisamatsu H., Noda C., Tanah
Chung C.H., Shibmara N., Willy P.J., Mott J.D., Slaughter C.A.,
DeMartino G.N.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 238;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        71.4%; Score 25; DB 1; Length 238 100.0%; Pred. No. 1.5e+02; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            238 AA; 26857 MW; AFA0F013CECE1CD3 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                          -!- INDUCTION: BY INTERFERON GAMMA.
-!- SIMILARITY: BELONGS TO THE PA28 FAMILY.
MEDLINE=95309399; PubMed=7789512;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        noser, O'COSS, PA28 alpha. InterPro; IPR003185; PA28 beta. InterPro; IPR003186; PA28 beta. Pfam; PP0252; PA28 beta; 1. Proteasome; Interferon induction.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Immunogenetics 49:438-445(1999).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EMBL; D45250; BAA08207.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           4; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Local Similarity
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PSE2_HUMAN
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Matches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    "anti-oxidation" enzyme.", propress microstrope structures anti-oxidation enzyme.", propress microstrope structures anti-oxidation enzyme.", elicohemistry 39:13307-13312 (2000).

-!- FUNCTION: HAS AN IMPORTANT FUNCTION AS A REPAIR ENZYME FOR PROTEINS THAY BEEN INACTIVATED BY OXIDATION. CATALYZES THE REVERSIBLE OXIDATION-REDUCTION OF METHIONINE SULPOXIDE IN PROTEINS TO METHIONINE.

-!- CATALYTIC ACTIVITY: Protein L-methionine + oxidized thioredoxin = protein L-methionine S-oxide + reduced thioredoxin.

-!- SIMILARITY: BELONGS TO THE MSRA MET SULPOXIDE REDUCTASE FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDLINE=20519025; PubMed=11063566;
Lowther W.T., Brot N., Weissbach H., Matthews B.W.;
"Structure and mechanism of peptide methionine sulfoxide reductase, an
                                                                                                                                                                                                                                                                                                                                     Moskovitz J., Weissbach H., Brot N.; "Cloning the expression of a mammalian gene involved in the reduction of methionine sulfoxide residues in proteins."; Proc. Natl. Acad. Sci. U.S.A. 93:2095-2099(1996).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              i6-OCT-2001 (Rel. 40, Created)
16-OCT-2001 (Rel. 40, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
16-OCT-2001 (Rel. 40, Last annotation update)
Proteasome activator complex subunit 2 (Proteasome activator 28-beta subunit, PA28beta) (PA28b) (Activator of multicatalytic protease subunit 2) (11S regulator complex beta subunit) (REG-beta)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Rattus norvegicus (Rat).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
                                                               Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi, Mammalia, Eutheria, Cetartiodactyla, Ruminantia, Pecora, Bovoidea, Boyldae, Bovinae, Bos. NCBL_TaxID=9913,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              .,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Oxidoreductase, 3D-structure.
SEQUENCE 233 AA, 25846 MW; lF69D612723FBABA CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             X-RAY CRYSTALLOGRAPHY (1.6 ANGSTROMS).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRT;
                                                                                                                                                                                                                                                                                               MEDLINE=96312545; PubMed=8700890;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EMBL; U37150; AAC48539.1; -. PDB; 1FVA; 08-NOV-00. PDB; 1FVG; 08-NOV-00. Interpro; IPR002569; PMSR. PFam; PF041625; PMSR; 1. ProDom; PD003489; PMSR; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TIGRFAMS; TIGR00401; msrA; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STANDARD;
                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
TISSUE=Adrenal medulla;
                                     taurus (Bovine).
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Matches 4; Conserv
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SEQUENCE FROM N.A.
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81 WTLK 84
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ID PSE2_RAT
AC Q63798;
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RN SEQUENCE FROM N.A.

RA SITUABDET STREEPANCREAS)

RA STANDED STREEPANCREAS

R. STANDED STR. STREEPANCREAS

R. STANDED STR. STREEPANCREAS

R. SUDMITTER (WAR-2001) to the EMBL/GenBank/DDBJ databases.

- I SUDMITTER (WAR-2001) to the EMBL/GenBank/DDBJ databases.

- I FUNCTION: Implicated in immunoproceasome assessmelly and required for efficient antigen processing. The PASS activator complex enhances

- C. SUBLINIT: HETERODIMER OF PSWE1 AND PSWE2, WHICH FORMS A HEXADIMERIC

- I MUDUCTION: BY INTERPERON GAWA.

- I SIMILARITY: BELONGS TO THE PASS FAMILY.

- I SMILARITY: TO THE PASS FAMILY.

- I SMILARITY: TO THE PASS FAMILY.

- I SMILARITY: TO THE PASS FAMILY.

- I THEREPOO THE PASS FAMILY.

- I THEREPOO THE PASS FAMILY.

- I THEREPOO THE PASS FAMILY.

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Search completed: January 29, 2003, 10:45:07 Job time : 6.36364 secs

112 WTLK 115

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